12" Black & White Observation System VM6

VSS2360/00T
VSS2260/00R
VSS4460/00T
22MS605R
VS23605T
VS23655T
VS22605R
VS44605T

Service
Service
Service

NORTH-AMERICAN MODELS:
Service Manual: 8109

Service Manual

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.

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PCS 97 057 GB

PHILIPS

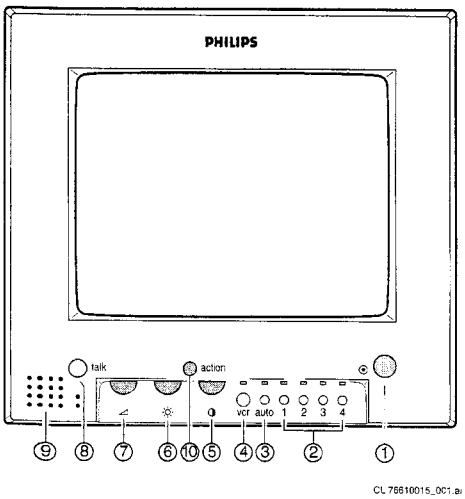
1. Specifications

General

Mains voltage	100 - 240 VAC ± 10%
Mains frequency	50 - 60 Hz
Power consumption	24,4 W (max.) 4 camera's
Camera supply	24 V dc
Weight	5,7 kg
Dimensions (WxHxD)	320 x 310 x 310 mm
High voltage (zero beam)	12 kV
Ambient temperature	
- Operating	+10 - +45 °C
- Storage	-25 - +70 °C
TV system	
Number of lines	625 / 525 (PAL/NTSC)
Field frequency	50 Hz/ 60 Hz
Resolution-bandwidth	4 MHz
Inputs	
Camera-telephone plug	2-wire twisted pair
CVBS- BNC plug	1 V_{pp} into 75Ω (VCR)
Audio- cinch plug	500 mV_{pp} into 10kΩ (VCR)
Outputs	
Camera-telephone plug	2-wire transmission
CVBS- cinch plug	1 V_{pp} into 75Ω (VCR & Slave)
Audio- cinch plug	500 mV_{pp} into 10kΩ (not affected by the volume control)
Audio	
Power output	200 mW
Speaker	built in 25 Ω
Microphone	built in, electret
Frequency response	baseband 30 -16000 Hz
VCR signals	
video input (CVBS)	1 V_{pp} on 75Ω
audio input	500 mV_{pp} on 10kΩ
video output (CVBS)	1 V_{pp} on 75Ω
audio output	500 mv_{pp} on 10 kΩ (not affected by the volume control)
Alarm facilities	
Contacts	Normally open or normally closed contact.
Ratings	max. switching voltage 24Vdc/24Vac max. switching current 2A

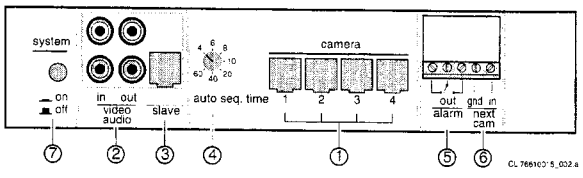
2. Controls and Connections

Controls and connections of VSS2360/00T & VS23605T & VS23655T (POS)



A-1

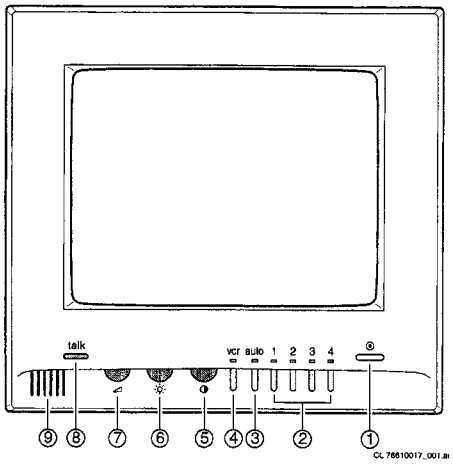
1. Stand by
2. Camera selection 1-4
3. Auto
4. VCR
5. Contrast
6. Brightness
7. Volume
8. Talk
9. Speaker
10. Action



A-2

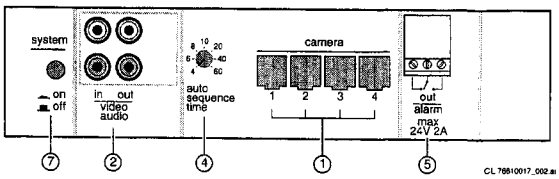
1. Camera inputs 1-4
2. Audio & Video / In & outputs
3. Slave output
4. Sequence time adjustment
5. Alarm output
6. Next camera input
7. Power on/off

Controls and connections of VSS2260/00R & 22MS605R & VS22605R (Retail)



B-1

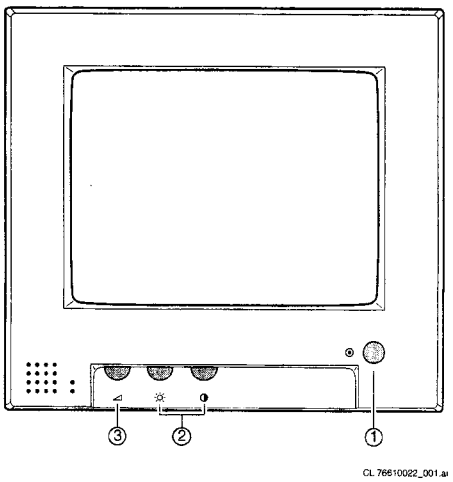
1. Stand by
2. Camera selection 1-4
3. Auto
4. VCR
5. Contrast
6. Brightness
7. Volume
8. Talk
9. Speaker



B-2

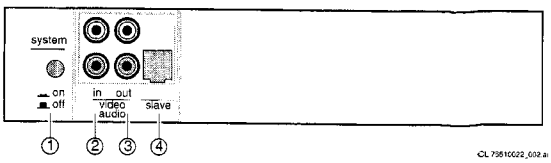
1. Camera inputs 1-4
2. Audio & Video / In & outputs
4. Sequence time adjustment
5. Alarm output
7. Power on/off

Controls and connections of VSS4460/00T & VS44605T (Slave)



C-1

1. Stand by
2. Contrast & Brightness
3. Volume



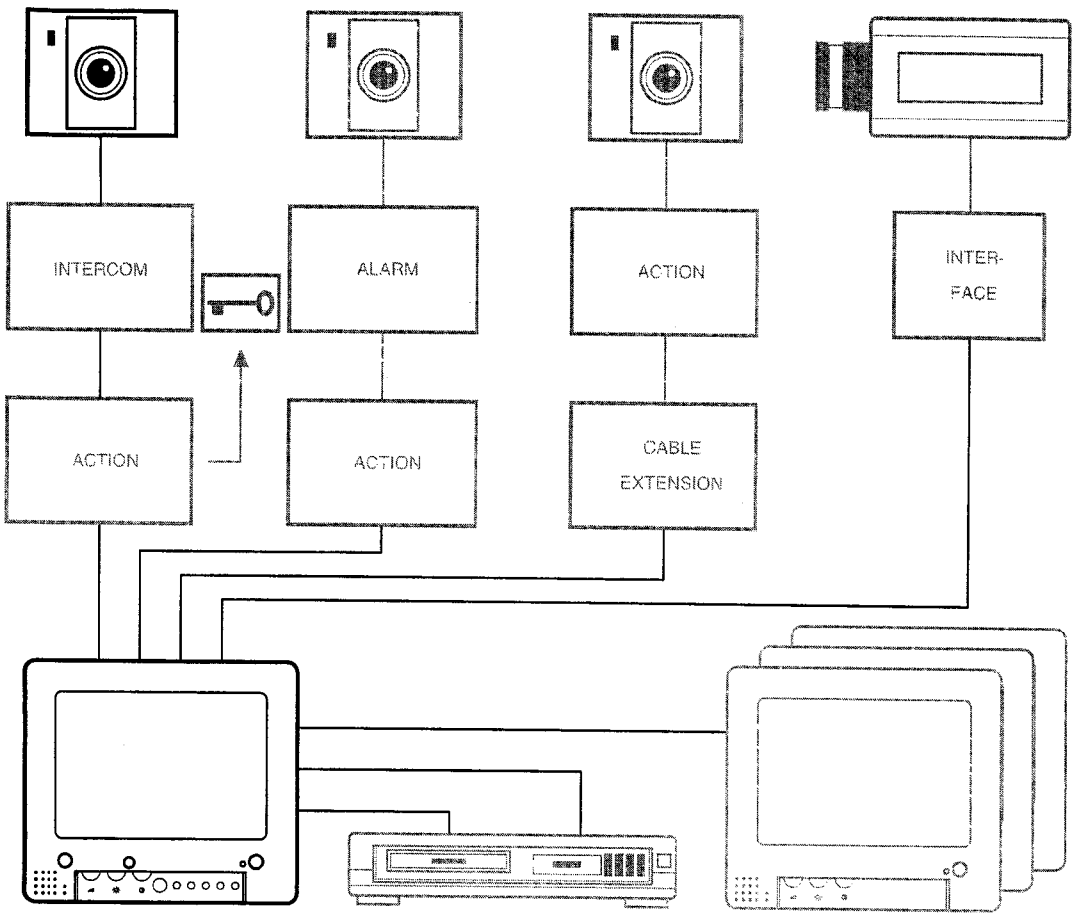
C-2

1. Power on/off
2. Audio & Video Input
3. Audio & Video output
4. Slave input

Camera Compatibility

	VCM8638/00T VCM8637/00T	VC86785T VC86775T	VCM8630/00R	68MC305R	VCM8936/00T VCM8935/00T	VC89785T VC89775T VC89765T VC89755T	VCM8932/00T	VC89355T	98MC350R 98MC355R
VSS2360/00T	Yes	--	--	--	Yes	--	--	--	--
VSS2260/00R	--	--	Yes	--	--	--	Yes	--	--
VSS4460/00T	Yes	--	--	--	Yes	--	--	--	--
VS23605T	--	Yes	--	--	--	Yes	--	Yes	--
VS23655T	--	Yes	--	--	--	Yes	--	Yes	--
VS22605R	--	--	--	Yes	--	--	--	--	Yes
VS44605T	--	Yes	--	--	--	Yes	--	Yes	--
22MS605R	--	--	--	Yes	--	--	--	--	Yes

Connection possibilities



CL 76610015_003.ai

3. Safety Instructions, Maintenance Instructions, Warnings and Notes

Maintenance Instructions

Safety Instructions for Repairs

1. Safety regulations require that during a repair:
   - the set should be connected to the mains via an isolating transformer;
   - safety components, indicated by the symbol ⚠, should be replaced by components identical to the original ones;
   - when replacing the CRT, safety goggles must be worn.

2. Safety regulations require also that after a repair:
   - the set should be returned in its original condition;
   - the cabinet should be checked for defects to avoid touching, by the customer, of inner parts;
   - the insulation of the mains lead should be checked for external damage;
   - the mains lead strain relief should be checked on its function;
   - the cable form and EHT cable are routed correctly and fixed with the mounted cable clamps in order to avoid touching of the CRT, hot components or heat sinks;
   - the electrical resistance between mains plug and the secondary side is checked.

This check can be done as follows:
- unplug the mains cord and connect a wire between the two pins of the mains plug ;
- measure the resistance value between the pins of the mains plug and the metal shielding of the tuner or the aerial connection on the set. The reading should be between 4.5 MΩ and 12 MΩ.
- switch off the monitor and remove the wire between the two pins of the mains plug;
- thermally loaded solder joints should be re-soldered. This includes components like LOT, the line output transistor, fly-back capacitor.

It is recommended to have a maintenance inspection carried out periodically by a qualified service employee. The interval depends on the usage conditions.

- When the set is used in a living room the recommended interval is 3 to 5 years.
- When the set is used in the kitchen or garage this interval is 1 year.

During the maintenance inspection the above mentioned "safety instructions for repair" should be carried out. The power supply and deflection circuitry on the chassis, the CRT panel and the neck of the CRT should be cleaned.

Warnings

1. When a camera or accessory is connected or disconnected, the monitor **should** always be switched off by the power switch (at the rear side of the monitor). Only operating the **stand-by** knob is not sufficient !

2. In order to prevent damage to **ICs** and transistors, all high-voltage flash-overs must be avoided.
   In order to prevent damage to the picture tube, the method shown in Fig. 3.1 should be used to discharge the picture tube. Use a high-voltage probe and a multimeter (position DC-V). Discharge until the meter reading is **0 V** (after approx. 30s).

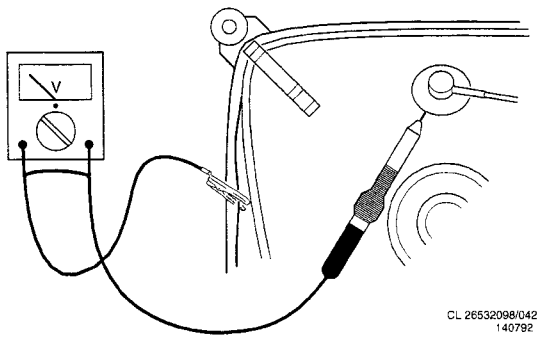


Fig. 3.1

3. ESD
   All **ICs** and many other semiconductors are sensitive to electrostatic discharges (ESD).
   Careless handling during repair can drastically shorten the life. Make sure that during repair you are connected by a pulse band with resistance to the same potential as the earth of the unit.
   Keep components and tools also at this same potential.

4. Be careful when taking measurements in the high-voltage section and on the picture tube panel.

5. When making settings, use plastic rather than metal tools.
   This will prevent any short-circuit and the possibility of false made adjustments

6. Never replace modules or other components while the unit is switched on (pull-out the mains cord to switch-off the monitor).

7. After repair the wiring should be fastened once more in the cable clamps for this purpose.

8. It is necessary to connect first the cameras to the camera inputs, before switching on the monitor. In this way you can prevent short circuit of camera input during camera connection and therefore prevent damaging of input transistor.

9. When no input signals are connected to the monitor, the screen will be blanked.

Notes

1. The direct voltages and oscillograms are average voltages. They have been measured by using a camera with a random picture and under the following conditions:
   - Adjust brightness and contrast control for the mechanical mid-position;
   - Volume control in middle position.

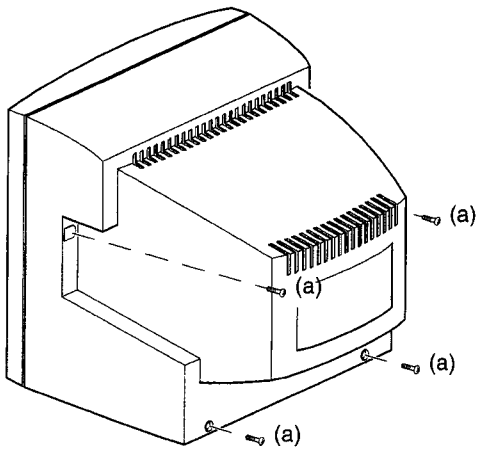
2. The semiconductors indicated in the circuit diagram(s) and in the parts lists are completely interchangeable per position with the semiconductors in the unit, irrespective of the type indication on these semiconductors.

3. Diagram notes;
   The circuit diagrams are prepared for different types of system monitors. On each diagram symbols may be add to components to identify for which type of monitor that component is available in the diagram.

4. Mechanical instructions

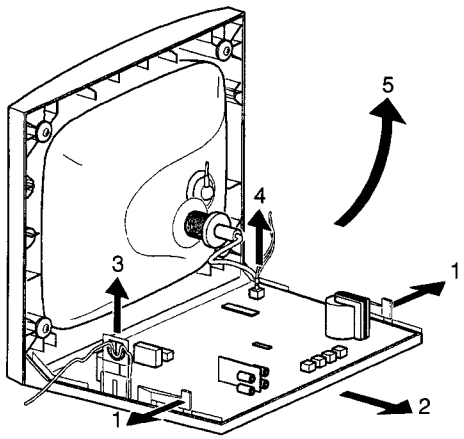
4.1 Disassembly of the monitor :

Unplug the system from the mains then remove the screws (a) on each side of the back cover.



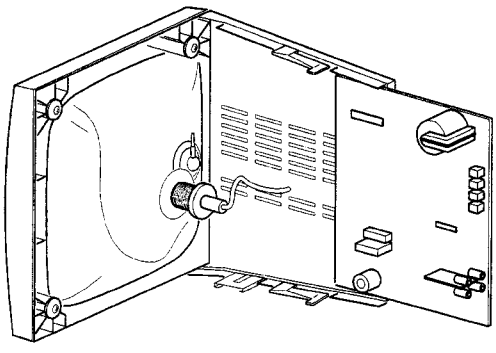
4.2 Removing the main panel:

- Remove the mains pull relief plug "3".
- Remove plug number "4" (Speaker / microphone).
- Press clips "1" slightly away from the panel.
- Shift simultaneously with clips "1" the panel out in direction "2".
- Turn the monitor in direction "5".



4.3 Service position:

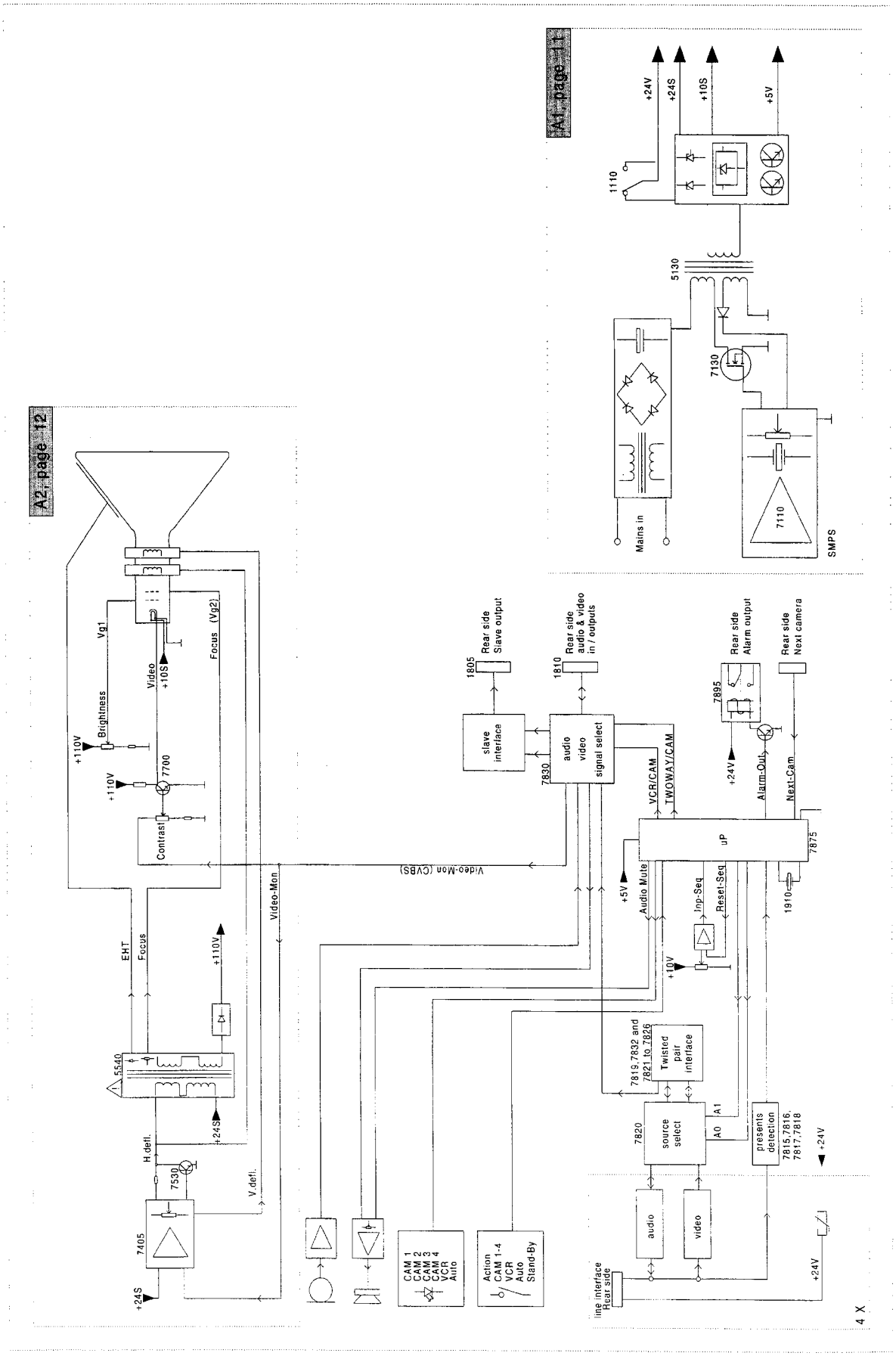
The main panel is now in its service position.
In this position all the service repairs can be executed by the repair technicians.



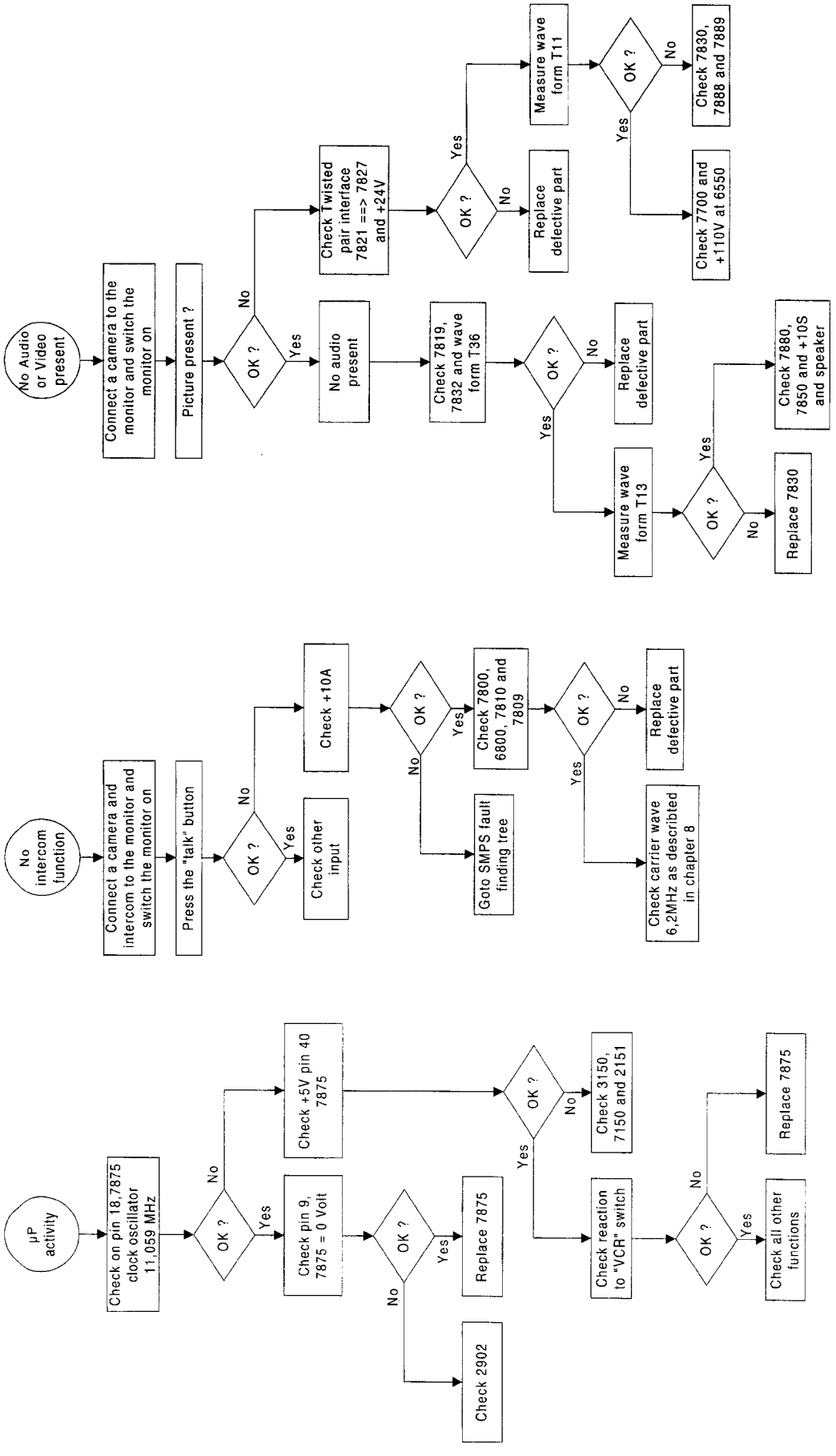
4.4 Closing the monitor :

After repair the remounting is in the opposite way.

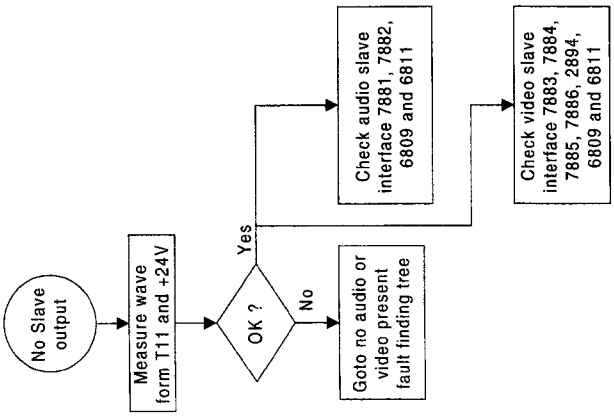
5. Block diagram

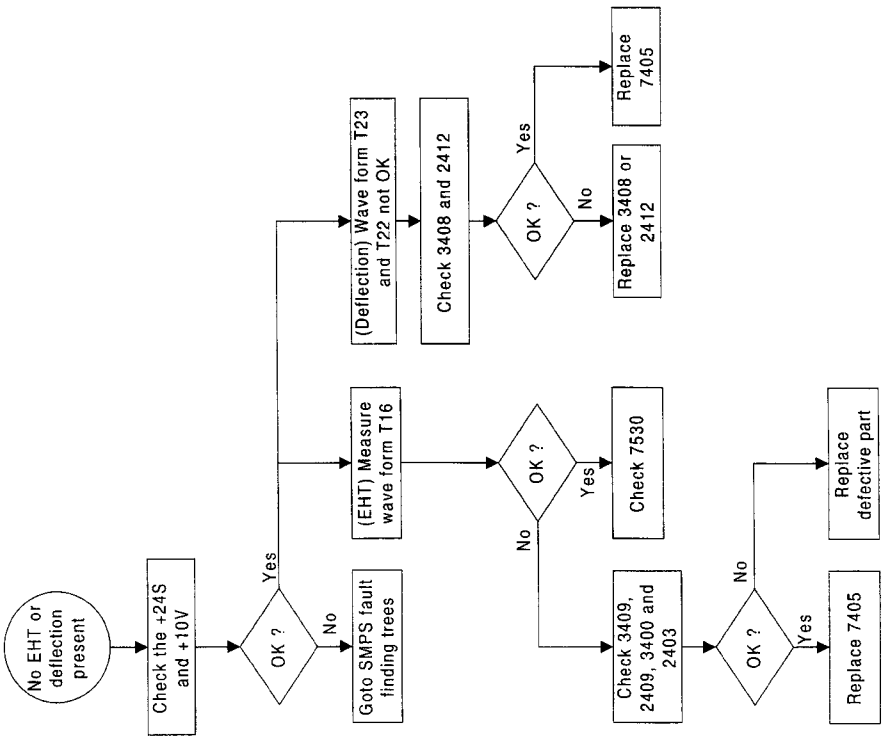


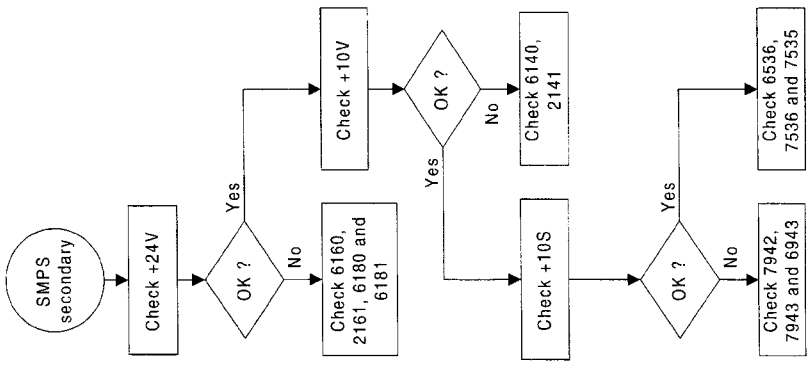
6 Fault Finding Tree's



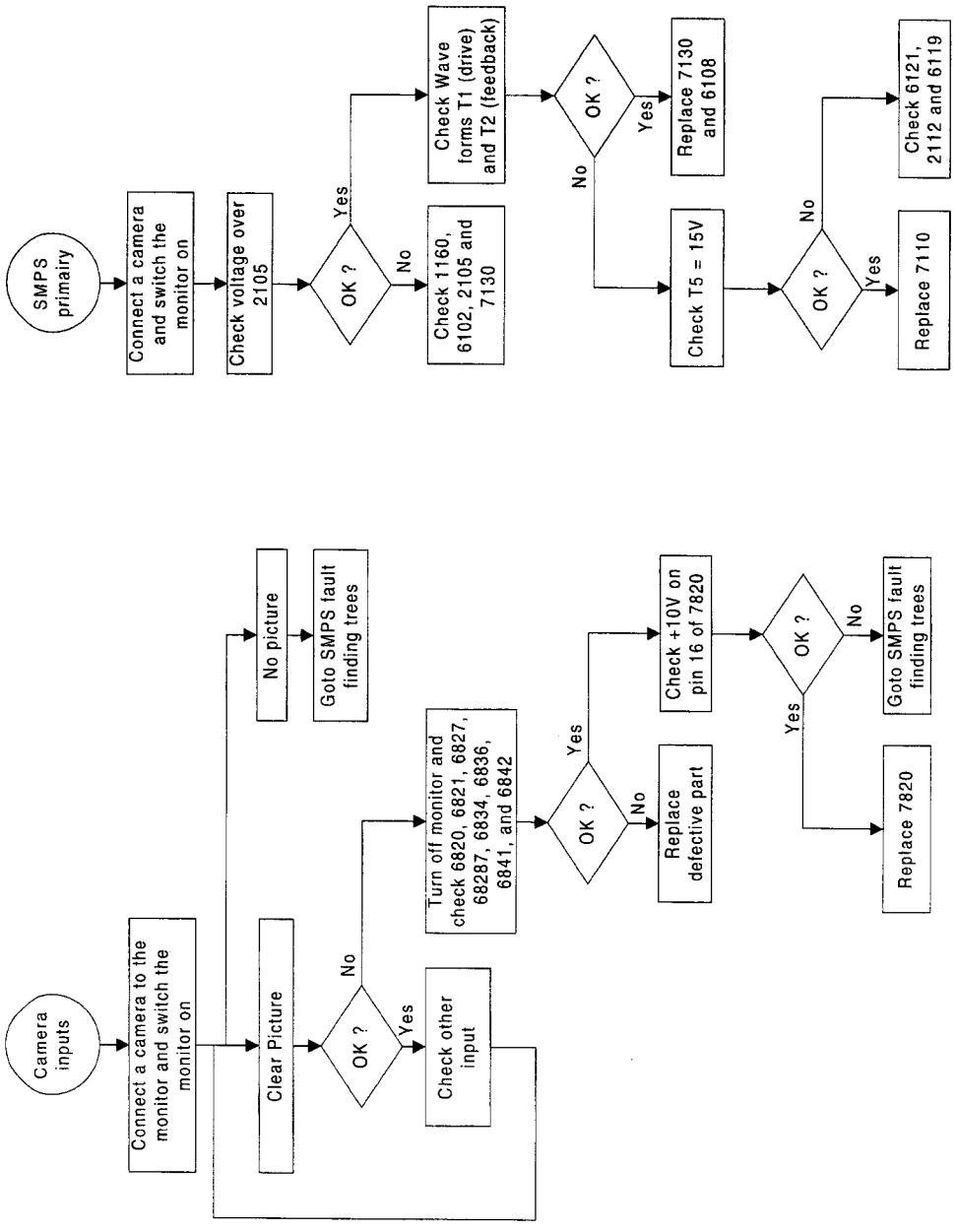
6 Fault Finding Tree's

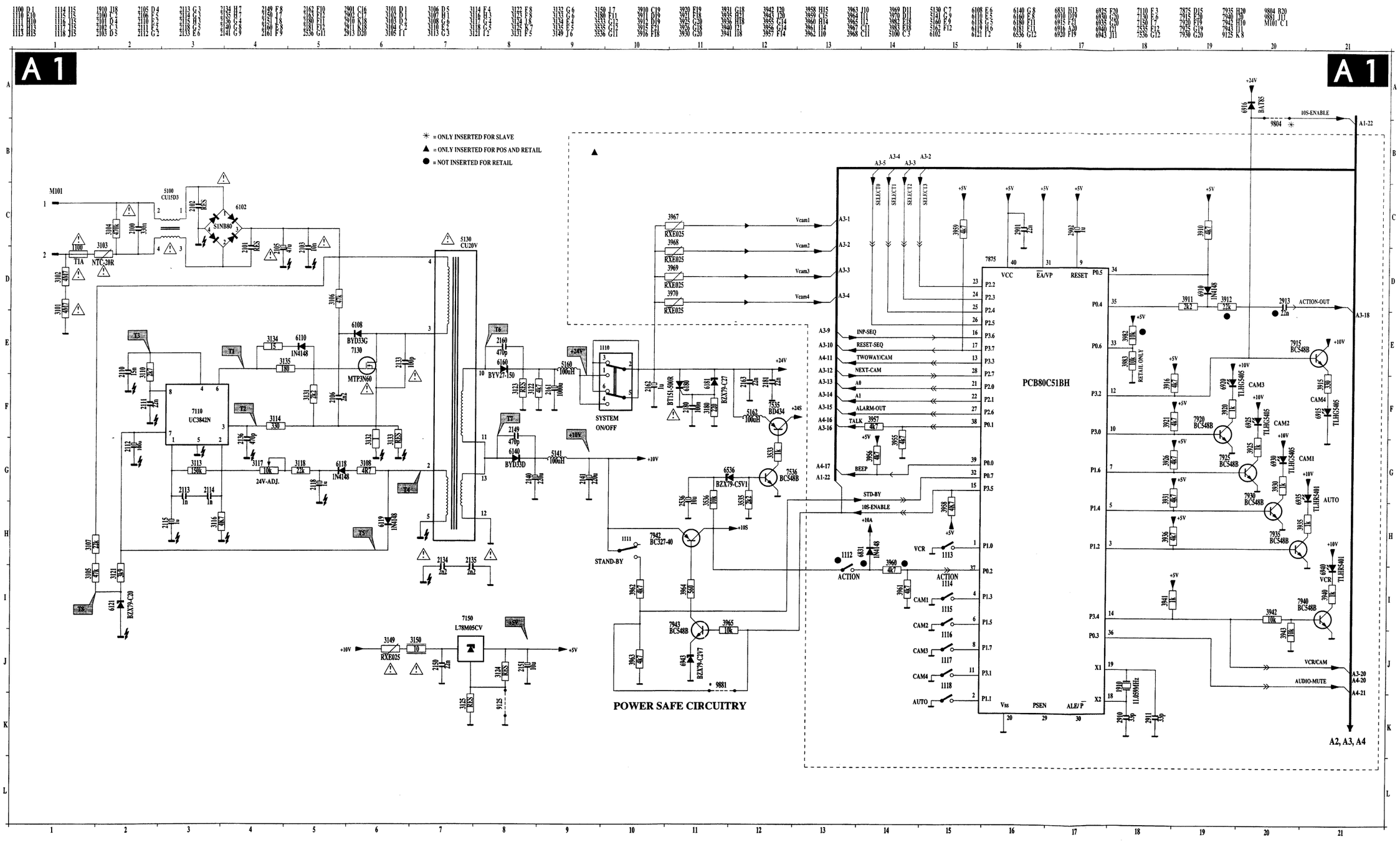

No Slave output
Measure wave form T11 and +24V
OK ?
Yes
No
Goto no audio or video present fault finding tree
Check audio slave interface 7881, 7882, 6809 and 6811
Check video slave interface 7883, 7884, 7885, 7886, 2894, 6809 and 6811

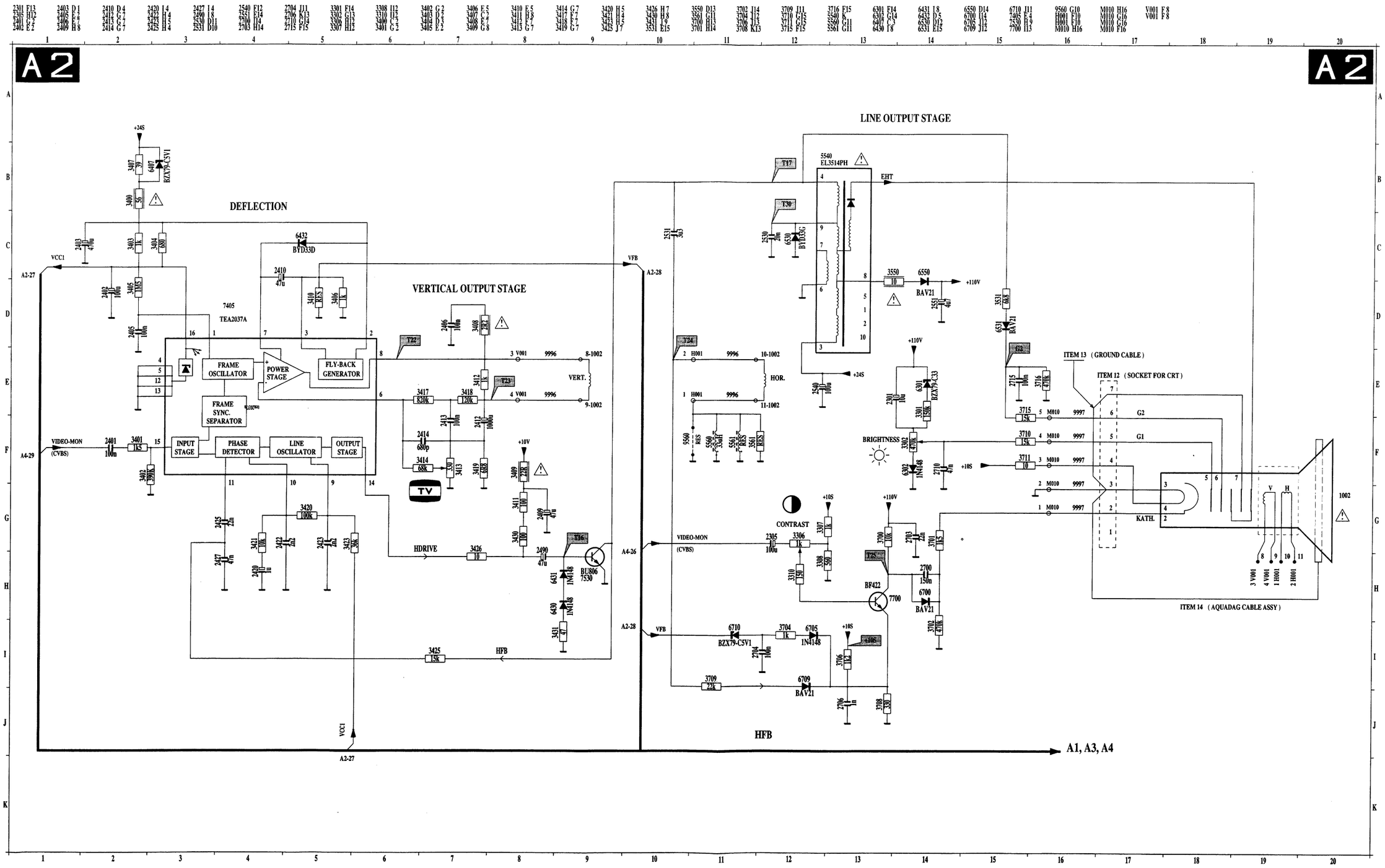




6 Fault Finding Tree's




A 1
A 1
✳ = ONLY INSERTED FOR SLAVE
▲ = ONLY INSERTED FOR POS AND RETAIL
● = NOT INSERTED FOR RETAIL
PCB80C51BH
POWER SAFE CIRCUITRY
SYSTEM ON/OFF
STAND-BY
24V-ADJ.
10S-ENABLE
ACTION-OUT
VCR/CAM
AUDIO-MUTE
INP-SEQ
RESET-SEQ
TWOWAY/CAM
NEXT-CAM
ALARM-OUT
TALK
BEEP
STD-BY
ACTION
CAM1
CAM2
CAM3
CAM4
AUTO
VCR
RETAIL ONLY
A2, A3, A4



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VIDE-V00699 / DRUCK 2

1800 B1 1801 G1 1802 H1 1803 J1 1825 B18 2811 F8 2817 F10 2825 D3 2832 I9 3806 F10 3813 H16 3819 I6 3826 F3 3833 G11 3840 G13 3848 H13 3892 F13 3953 D5 3994 D6 6827 F2 6835 H9 6892 E6 7813 I7 7830 E6 9918 L4
1800 D1 1801 E1 1802 H1 1803 J1 1811 H12 2812 G9 2818 G11 2826 F3 2833 H9 3807 H10 3814 G15 3820 C3 3827 F3 3834 G3 3841 I3 3848 I3 3893 F4 3954 F4 5810 F9 6828 F7 6836 H2 6890 F9 7809 G12 7814 I6 7830 C14 9922 L4
1800 C1 1801 E1 1802 H1 1803 K1 1811 H12 2813 F4 2819 G13 2827 H3 2834 G3 3808 F3 3815 C4 3821 C3 3828 F3 3835 H3 3842 I3 3849 I3 3894 G12 3950 K4 3955 F4 5810 C5 6829 E7 6837 I2 6891 C16 7807 C4 7815 C4 7891 C14
1800 D1 1801 E1 1802 H1 1803 L1 1811 H12 2814 F9 2820 G12 2828 K3 2835 H3 3809 F10 3816 C3 3822 C3 3829 F3 3836 H3 3843 I3 3850 K4 3956 I3 3868 C13 3895 F4 5811 G16 6830 E11 6838 C16 7808 G13 7810 G13 7816 F4 7891 A15
1800 C1 1802 G1 1825 C18 2809 H3 2815 F10 2821 I14 2829 H13 3804 F9 3810 F12 3817 C16 3823 C3 3830 F3 3837 C17 3844 I3 3869 H12 3882 H10 3951 F4 3957 K4 6821 D2 6834 G2 6842 K2 7811 G16 7812 H16 7818 J4 9902 L7 9903 L7
1801 E1 1802 I1 1825 C18 2810 H10 2816 C17 2822 H15 2830 E6 3805 F10 3811 H16 3818 I6 3825 C3 3832 F11 3838 C17 3845 H8 3882 H10 3952 F4 3974 K4 6822 D2 6831 G2 6839 I2 6843 K2 6890 C14 7812 H16 7818 J4 9903 L7

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19

A3

A3

TWISTED PAIR INTERFACE

ALARM OUT SWITCH

AUDIO OUTPUT TO TWISTED PAIR MODULATOR

1800 1801 1802 1803

Vcam4 Vcam3 Vcam2 Vcam1

A1-4 A1-3 A1-2 A1-1

SELECT3 SELECT2 SELECT1 SELECT0

7815 BC558B 7816 BC558B 7817 BC558B 7818 BC558B

7820 74HC4052N

5810 6.2MHz

7800 BF324

7813 BC548B 7814 BC548B

7895 JS1-24V

7891 BC548B 7890 BC548B

ALARM-OUT NEXT-CAM

A1-15 A1-12

A1-16 A4-16 TALK

A1-20 A4-20 VCR/CAM

7809 BC549C

7810 LM358N

7811 BC558B 7812 BC548B

RESET-SEQ INP-SEQ

A1-10 A1-9

1811 MIC

TALK

POS-VIDEO NEG-VIDEO

ACTION-OUT AUDIO-OUT

A1-18 A4-30

A1-13 A1-14 A4-39 A4-38 A4-35 A4-34 A4-32 A4-33

VS4 VS5 VS2 VS3

9902 9903 9918 9922

A1, A2, A4

✳ = ONLY INSERTED FOR SLAVE

▲ = ONLY INSERTED FOR POS AND RETAIL

● = NOT INSERTED FOR RETAIL

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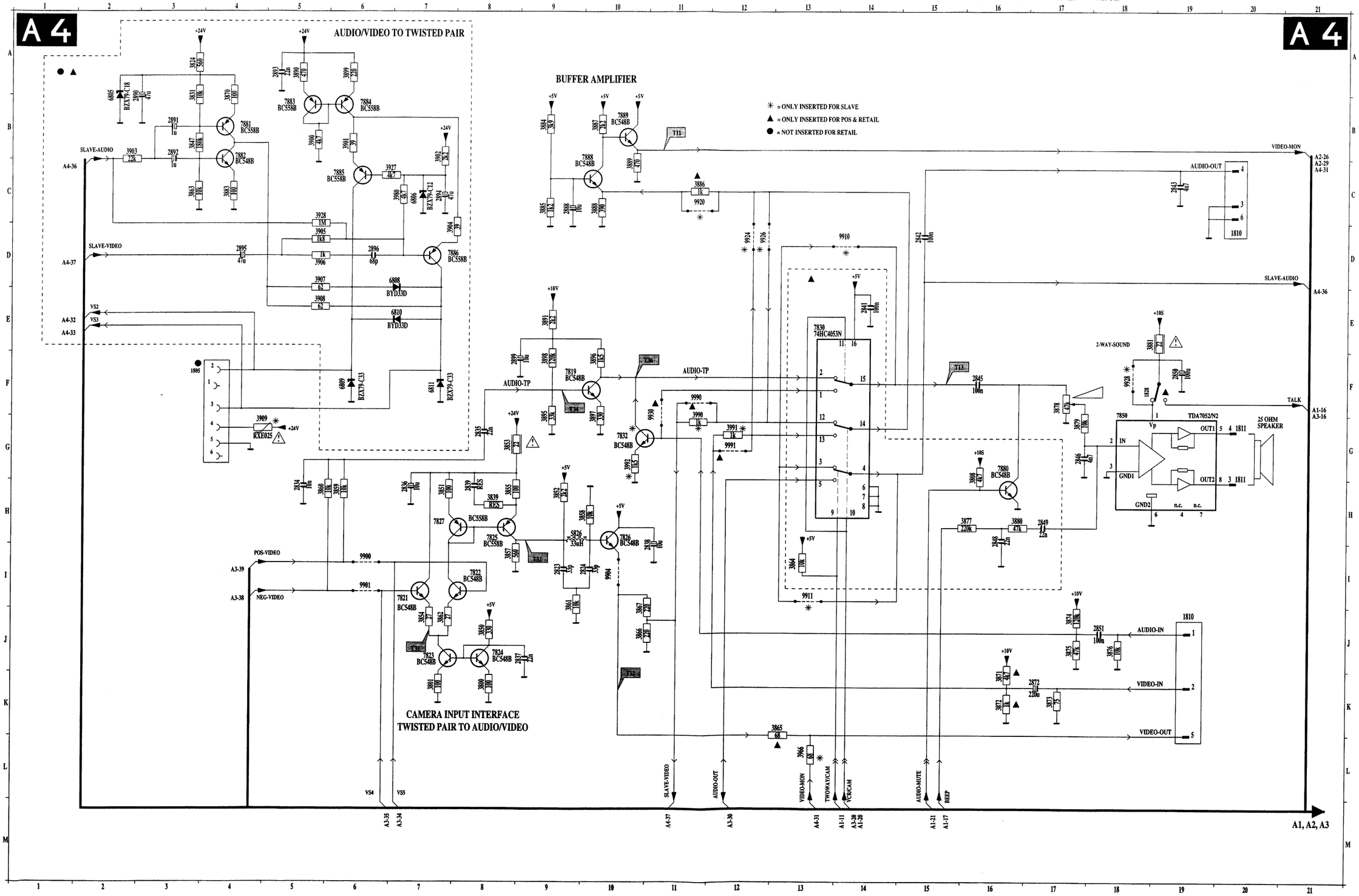
1805 E 3 1810 I 19 1810 D20 1811 G20 1811 G20
1828 F18 2823 I 4 2825 I 10 2834 H 5 2835 G 8
2836 H 7 2837 I 9 2838 H11 2839 H 8 2841 E14
2842 D15 2843 C10 2845 E16 2846 G17 2848 H16
2849 H17 2850 F16 2851 J18 2872 K17 2888 C 9
2890 A 2 2891 B 3 2892 B 3 2893 A 5 2894 C 7
2895 D 4 2896 D 6 2899 D 6 3800 K 8 3801 K 7
3808 G16 3834 A 5 3839 F 8 3847 B 3
3850 J 8 3851 H 9 3853 G 8 3854 J 7
3855 H 8 3856 L 5 3859 H 5 3860 H 5
3861 I 9 3862 L 3 3864 D 3 3865 K13
3866 J10 3867 I10 3870 A 4 3871 K16 3872 K16
3873 K17 3875 J17 3876 J18 3877 H16
3878 E17 3879 G17 3880 H16 3881 E18 3883 C 4
3884 B 9 3885 C 5 3886 C11 3887 B10 3888 C10
3889 C10 3890 A 5 3891 E 9 3895 F 9 3896 F10
3897 F10 3898 E 9 3899 A 6 3900 D 5 3901 B 6
3902 B 7 3903 B 2 3904 D 7 3905 D 5 3906 D 5
3907 D 5 3908 E 5 3922 C 6 3928 C 5
3966 L13 3980 C 7 3980 G11 3991 G12 3992 G10
5826 H 9 6805 A 2 6806 C 7 6808 D 7 6809 F 6
6810 E 7 6811 F 7 7818 F 7 7821 I 7 7822 I 8
7823 J 7 7824 J 8 7825 H 8 7826 H10 7827 H 7
7830 E13 7832 G10 7850 F18 7880 G16 7881 B 4
7882 B 4 7883 B 5 7884 B 6 7885 C 6 7886 D 7
7888 B 9 7889 B10 9900 I 6 9901 I 6 9904 I10
9910 D14 9911 I13 9920 D11 9924 D12 9926 D12
9928 E18 9930 E11 9931 E11 9990 G12



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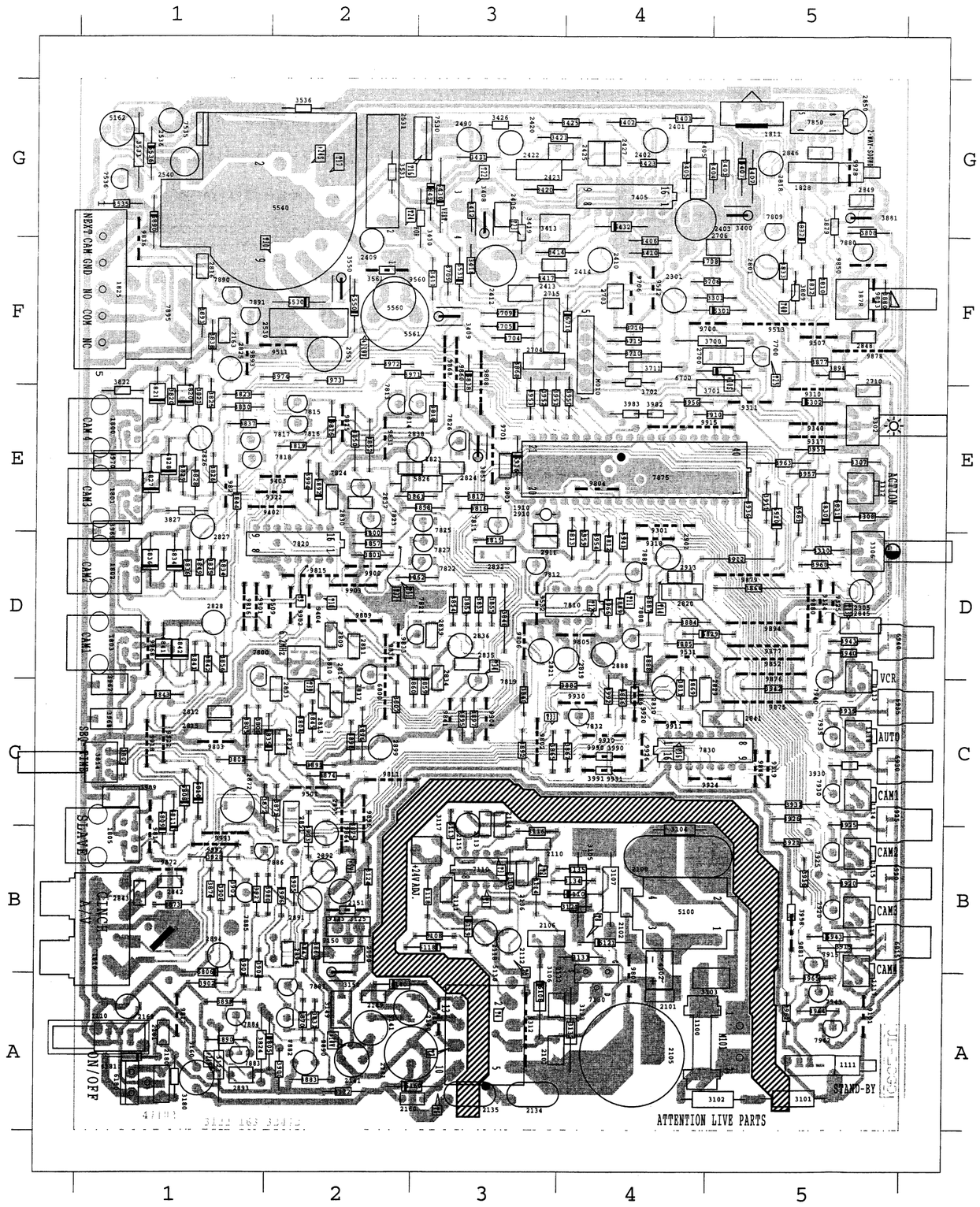
VIDE-V00699 / DRUCK 4

PWB



1100	A4	2827	E1	3535	G1	3882	C4	6160	A3	7925	B5
1110	A1	2828	D1	3536	G2	3883	A2	6180	A1	7930	C5
1111	A5	2829	C4	3550	F2	3884	D4	6181	A1	7935	C5
1112	E5	2830	E2	3561	F2	3885	D4	6301	F5	7940	C5
1113	D5	2832	C2	3700	F5	3886	C4	6302	E5	7942	A5
1114	C5	2833	C2	3701	E5	3887	D4	6407	G5	7943	A5
1115	B5	2834	D3	3702	F4	3888	D4	6430	G3	9101	A5
1116	B5	2835	D3	3704	F3	3889	D4	6431	G3	9125	B2
1117	B5	2836	D3	3706	F5	3890	A1	6432	G4	9140	A3
1118	C5	2837	E2	3708	F4	3891	C2	6530	F2	9301	E4
1800	E1	2838	E3	3709	F3	3892	C3	6531	F3	9310	E5
1801	E1	2839	D3	3710	F4	3893	F1	6536	G1	9311	E5
1802	D1	2841	C5	3711	F4	3894	F5	6550	F2	9312	A3
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1811	G5	2846	G5	3801	D2	3898	C2	6710	F4	9319	C5
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1828	G5	2849	G5	3803	C1	3900	A2	6805	A2	9325	D5
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2101	A4	2872	C1	3806	C1	3903	B2	6809	C1	9403	E2
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2812	C1	3412	G3	3867	C4	5141	A2	7875	E4	9918	C1
2813	C2	3413	G3	3868	F3	5160	A1	7880	F5	9920	C4
2814	C2	3414	F3	3869	C4	5162	G1	7881	A2	9922	C1
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2816	F1	3418	F3	3871	C2	5560	F2	7883	A1	9926	C4
2817	C2	3419	G3	3872	C1	5561	F2	7884	A1	9928	G5
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2821	D3	3425	G4	3876	B1	6108	A3	7889	D4	9991	C4
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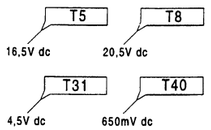
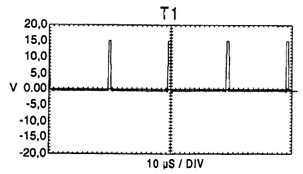
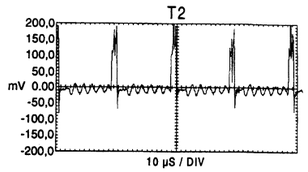
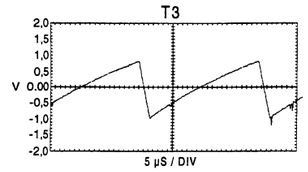
2823	E2	3430	G3	3878	F5	6118	B3	7891	F1	9993	B1
2824	E3	3431	G3	3879	G5	6119	B3	7895	F1	M010	F4
2825	F1	3531	G2	3880	F5	6121	B4	7915	B5		
2826	E1	3533	G1	3881	G5	6140	A2	7920	B5		

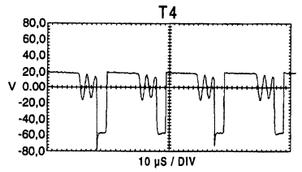
Wave forms

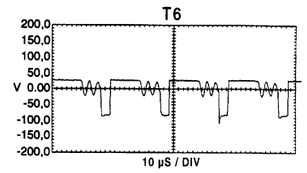


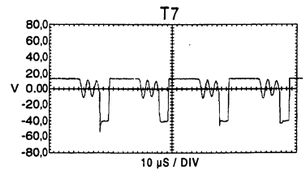


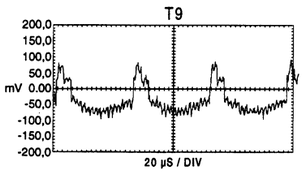


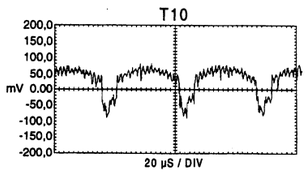


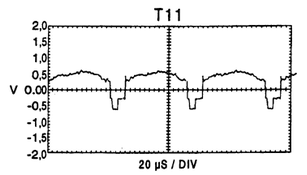


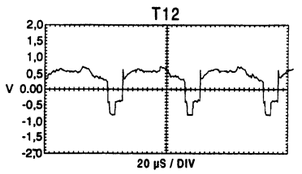


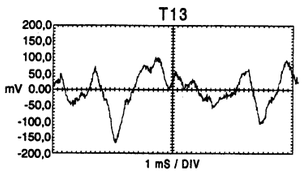


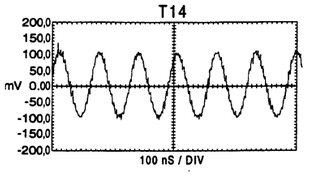


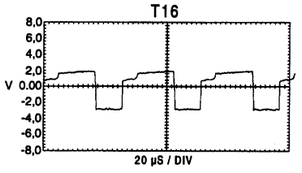


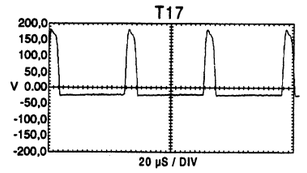


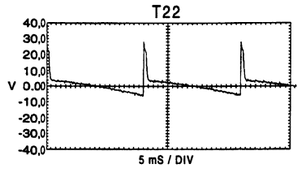


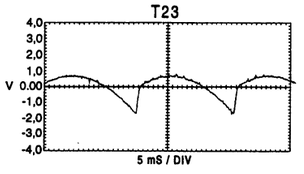


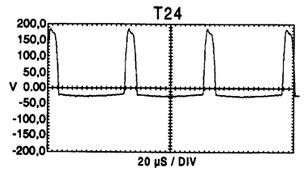


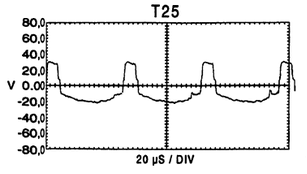


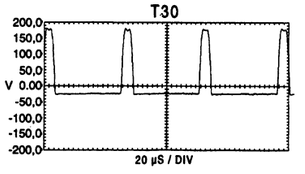


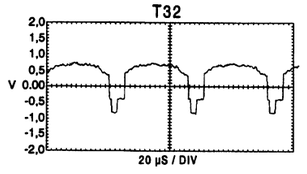


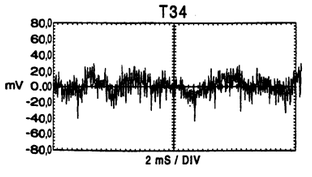


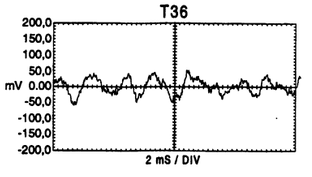


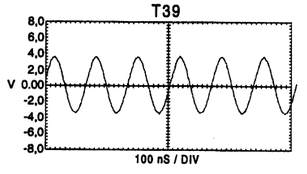












8. Electrical & mechanical adjustments

1. General

- All controls in the minimum position unless otherwise specified.
- Test signal: From pattern generator (PM 5544, circle), applied via capacitor of 4.7nF for DC blocking.
- The monitor should be warmed up for about 2 minutes.

2. Power supply

2.1 Adjustments of the +24V Volt

- Connect a DC voltmeter to TP +24V
- Switch on the monitor.
- Adjust potentiometer 3117 so the voltage reads 24,2 Volt DC (± 0,2 Volt)

3. Time base

3.1 Frame amplitude

- Apply a "Circle" with a pattern generator on Video-in-VCR and switch to VCR.
- Set al controls in the middle position.
- Adjust potentiometer 3413 until the vertical size of the circle is the same size as in horizontal direction.

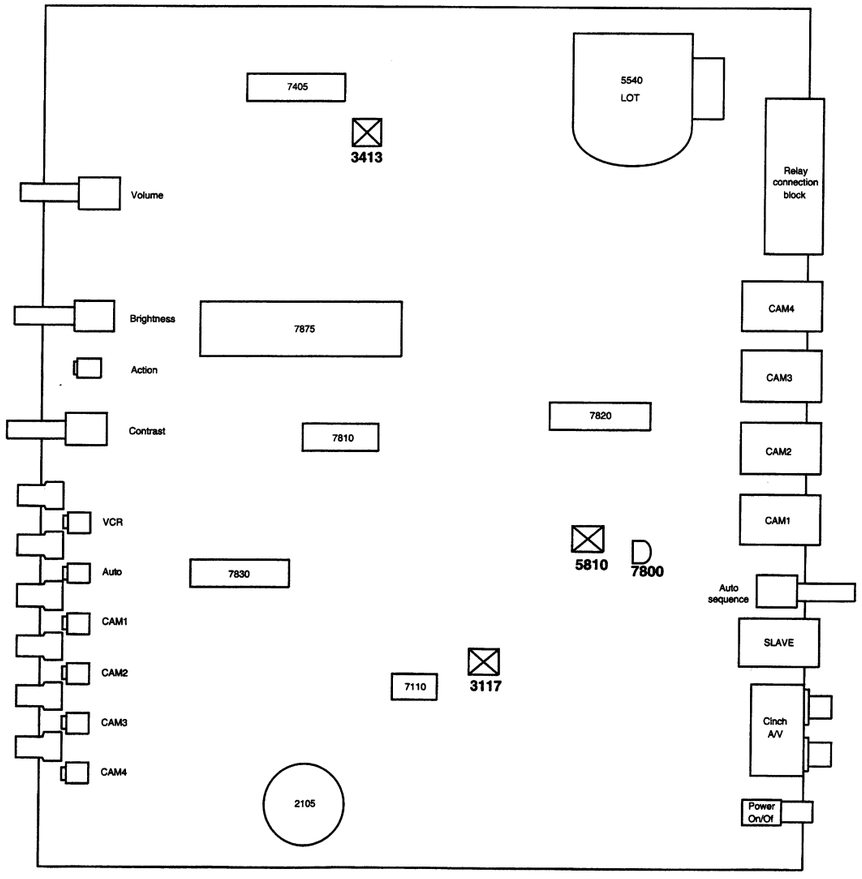
3.2 Picture geometry

- Rotate the deflection coil around the neck of the picture tube until the sides of the picture are in parallel with the mask.
- Adjust the centring magnets until the picture is symmetrical relative to the mask.

4. Carrier wave for intercom functions

4.1 Carrier wave adjustment

- Connect a frequency counter via a capacitor of 1 pF to the emitter of 7800.
- Tune the core of the coil 5810, while pressing the talk button, until the frequency counter measures 6.200.000 Hz ± 5 kHz.



9. Circuit Description

Differences with the VM8 system : In respect to the field calls of the VM8 system (See Training Manual VM8 service code 4822 727 20401), the VM6 system is improved on several points like:

- The use of other components in the camera interface and the deflection part
- An other transformer in the power supply
- Several software improvements
- For the POS monitor an extra Slave twisted pair interface
- The Slave monitor has a Twisted pair input
- The EHT is increased to improve picture quality
- A system on/off switch at the back of the monitor.

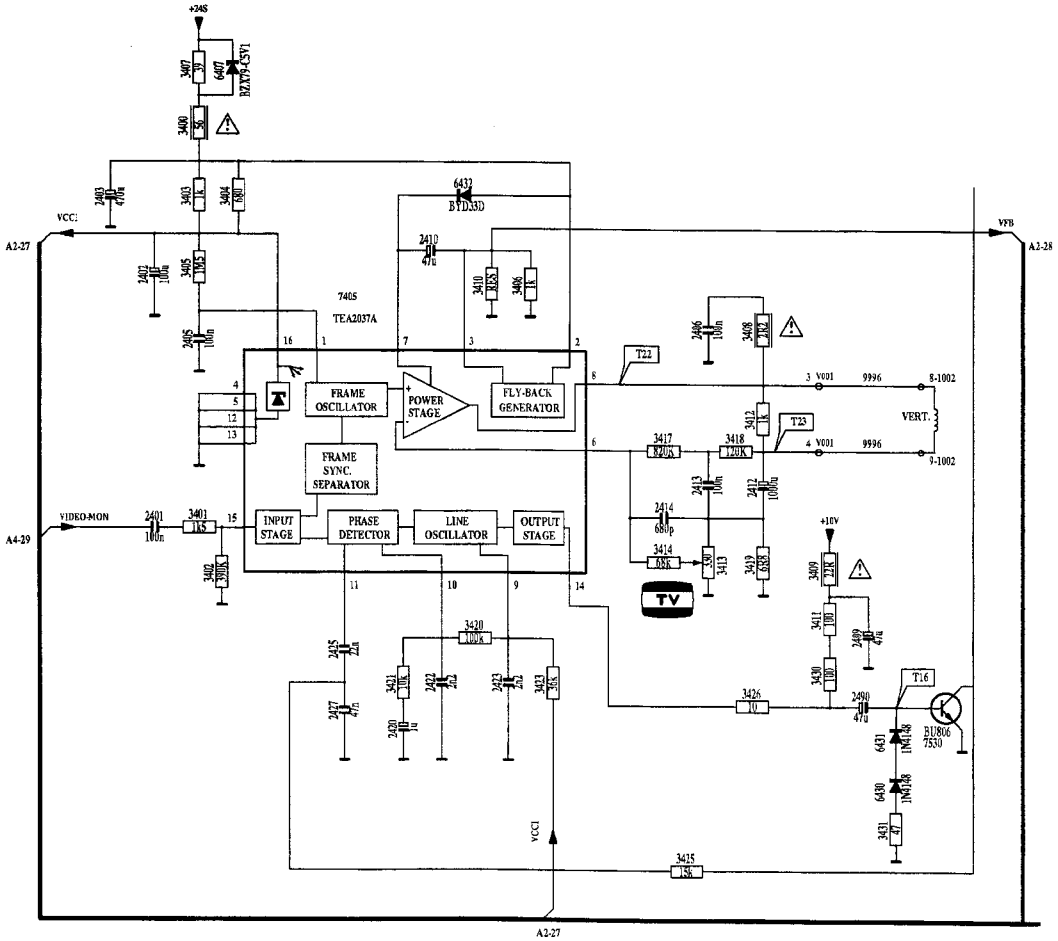
The deflection part differs (electronically) of that of the VM8 system. A new deflection control IC is introduced (TEA 2037A) which generates not only the horizontal and vertical drive but also the Vertical feedback pulses (VFB).

The DC level of the input stage (pin 15, 7405) is determined by 3402. The value of 3402 is chosen in such a way that only the synchronisation pulses of the video signal is fed into the input stage of 7405. After the input stage these pulses are fed in the phase detector and the frame sync. separator. The line oscillator (which is free running at approx. 14,6 kHz) will lock itself (PLL) to the line pulses originating from the incoming video. The line output stage is capable of driving the line output transistor 7530 directly. Via 3425 the phase of the line output stage is monitored. When the line output is getting out of phase, the phase detector will adjust its output, so the line output will get in phase again. As the VCC1 voltage (9,8 Volt) used for the horizontal and vertical oscillators as a reference, (is precise and stable) (using 2423 and 3423 as 1% components) it is not necessary to have a line oscillator adjustment. The line output stage of 7405 has an open collector therefore 3440, 3411 and 3409 are added. 3431, 6430 and 6431 are used to discharge 2490 during the down going flank of pin 14 of 7405.

The frame oscillator is locked to the vertical pulses. These pulses are fed into the vertical power stage, which is capable to drive the vertical deflection coil directly. Via feedback 3414, 3417 and 3413 the amplitude of the vertical drive is obtained. To prevent seeing vertical fly-back lines, the VFB is generated to suppress the video output when fly-back lines are present. Therefor VFB is no feedback but an outgoing signal !! The fly-back generator is essentially a switch which is closed when a Vertical Feed-Back pulse (VFB) is needed.

- During the scan the fly-back generator switch is open so 2410 is charged to approx. +14V via 6432.
- During the fly-back the fly-back generator switch is closed so pin 3 of 7406 is +14V. As 2410 is still charged to +14V, pin 7 of 7406 becomes approx. +28V at the beginning of the fly-back.
- During the fly-back the current through the deflection coil must quickly come to "0". Due to the inductive reaction of the deflection coil more energy is needed (therefor the +28V is used)

Power save circuitry (schematic A1): In the POS and Retail the STAND-BY button is a pulse switch. This pulse is used by the µP to switch off the +10S and +24S using 10S-ENABLE (pin 15, 7875). In this way the line output stage the deflection part and the filament voltage are switched off. In the Slave monitor however no µP is used, therefor 9804 and 9881are added and a make switch is used for the STAND-BY. In stand-by the switch is open and via 9881 and 7943 the +10S and +24S are switched off. When the Slave is turned off (rear side) the +24V and +24S are switched off. As the +24V is switched off, the +10S is switched off too via 6916 and 9804



10. Direction for use (for the type numbers VSS2360/00T & VS23605T & VS23655T)

Note: Unless otherwise indicated, all drawings are on page 2 & 3 of this manual

Installation

When the configuration is altered, the system must be scanned again. Therefore always switch off the system by means of the rear power switch when a camera or accessory is added or removed. Only operating the power save button is not sufficient.

Remark: *Only the inputs to which cameras are connected can be selected or used by the monitor. It is therefore useless to connect an accessory to an input to which no camera is connected.*

Monitor

On the back of the monitor the following can be connected:

Cameras

Connect the camera to one of the camera inputs at the back of the monitor (fig. A-2).
Correctly directing the camera at the object will be easier when the monitor is temporarily installed at the camera site.

VCR

For the recording and reproducing of pictures and sound a video recorder has to be connected to the input and output (**VCR-audio/video in/out**) on the back of the monitor (fig. A-2).

The VCR output can also be used to connect other peripheral equipment. For example, a video printer for hard copies.

Extra monitor

You can connect an extra monitor to the slave-output (fig. A-2), by using the same twisted pair system cable. The extra monitor gives exactly the same picture and sound as the basic monitor.
In VCR mode, the slave monitor shows the image of the last selected camera.

Alarm contact

The alarm contact (make (N.O.) and break (N.C.)) of the monitor (fig. A-2) can, for instance, be used to start up a video recorder, siren or telephone selector.

Cable

A 4-wire system cable (see specifications) is supplied as standard.

For optimum picture and sound quality, a standard dual 'twisted-pair' (telephone) cable should be used.

There is an extensive range of plugs and tools available in the hobby and professional trade to extend the cable. Always ensure that the connection is made as shown in figure D (Page 19).

Caution: *The plugs used for the observation system have the same dimensions as standard telephone plugs. Never connect a telephone to the camera or system monitor.*

The maximum distance that can be bridged (without a cable extension adapter) between the monitor and the cameras is **300 meters**.

Operation

Monitor

System on/off

By means of the **system** button (fig. A-2) the system can be switched on and off.
When the system is switched off all the camera LED's are off and the auto (sequence) LED flashes periodical.

Remark: *Use the **system** button to switch off the system when a camera or accessory is added or removed.*

Power save

By pushing the **power save** button (fig. A-1) the image and sound on the monitor can be switched off, thus saving power.
When the system is in power save mode all the camera LED's are off and the auto (sequence) LED is on.

Brightness/contrast

With the **brightness** (fig. A-1) and **contrast** knob (fig. A-1) the picture can be adjusted to your personal preference or to the ambient conditions.

Volume

With the **volume** knob the sound level can be adjusted (fig. A-1).

Talk

By pushing the **talk** button (fig. A-1) the built-in microphone (fig. A-1) in the monitor is switched on. The sound from the microphone can be reproduced by means of an intercom box (optional).

Action

By means of the **action** button (fig. A-1) it is possible to activate an (optional) action box. This can, for instance, be used to open a door remotely. The action box remains active for as long as the button is pressed.

Auto Sequence

The monitor switches slowly between the pictures (image + sound) of the connected cameras.

Remark: *The auto button is only functional when:*
- camera mode is selected;
- the observation system is enlarged to at least two cameras.

By pushing the **auto** button (fig. A-1) the automatic sequence function is started. The automatic interval sequence time (auto sequence time) can be adjusted between 4 and 60 seconds on the back of the monitor (fig. A-2).
In order to switch back to manual operation, push one of the camera preference buttons or the **auto** button.

Camera selection

A maximum of four cameras can be connected to the monitor. Choosing a camera is done with the camera selection keys **1, 2, 3** and **4** (fig. A-1), the appropriate LED lights up.

VCR

With this button (fig. A-1) the monitor is switched to VCR mode. The VCR-LED will light up. The signal which is supplied at the VCR input on the back of the monitor (fig. A-2) will be shown on the monitor.

Next camera input
When closing the contacts of the next camera input (fig. A-2), the system switches to the next available camera (for future use).

Doorbell
When the **doorbell** button on the optional intercom box is pushed, a buzzer will sound at the monitor, after which the picture will be switched to the corresponding camera. If the automatic camera sequence is active, it will be stopped. If the system operator does not react within 1 minute to the warning signal by pushing any button, the monitor will return to its previous status, or the automatic camera sequence will continue.

Alarm

An alarm will sound if:
- there is a break in the camera line.
- this is detected by a camera alarm input or by an alarm box (optional).

When an alarm sounds:
1) The system automatically switches to the corresponding camera input.
2) The corresponding camera LED will start to blink.
3) The built-in alarm buzzer will be audible for 15 seconds.
4) The alarm contact (fig. A-2) is changed over for 3 minutes. The alarm contact can activate a video recorder, siren or telephone selector.

Alarm programming
If required, an alarm box in a particular camera line can be disabled. This may be necessary to disconnect the alarms of a door contact or movement detector during the daytime. However, the cable detection remains active at all times.

Push and hold the **auto** button together with the **VCR** button.
The camera LED's on the monitor, the alarm function of which is active, will light up. The **auto** LED will blink fast. Push the corresponding camera selection button, the alarm of which has to be switched on or off (LED on = alarm on; LED off = alarm off).

If all camera lines are set, programming can be ended by pushing the **auto** button. The monitor will return to the status it had before programming.

Automatic alarm termination
After 3 minutes the monitor returns to the status it was in before the alarm was sounding.
If the automatic camera sequence was active, it will be continued. However, the corresponding camera LED remains flashing for as long as the alarm line is active (alarm detector is still active) or the camera line is still cut.

Premature (within 3 minutes) alarm termination
The alarm output (fig. A-2) will be de-activated by switching off the alarm. See alarm programming above. Pressing any key on the control panel of the monitor within 15 seconds will end the alarm sound only.

Alarm priority
A new alarm always gets priority. The monitor will always switch to the camera of the last-received alarm but the LED(s) of each previously received alarm blink faster.

Tips for maintenance

Ventilation
Avoid overheating the system monitor by ensuring to it that the ventilation openings on the top of the monitor remain uncovered. Do not place the monitor in the immediate vicinity of a source of heating.

Cleaning
You can clean the system monitor with a moist, fluff-free cloth or chamois leather cloth.

The outside of the camera can be cleaned with a moist, fluff-free cloth or chamois leather cloth.

When cleaning the objective a special lens cleaning cloth should be used. Do NOT use cleaning fluids that contain alcohol, methylated spirit, ammonia, etc..

Avoid direct contact with water.

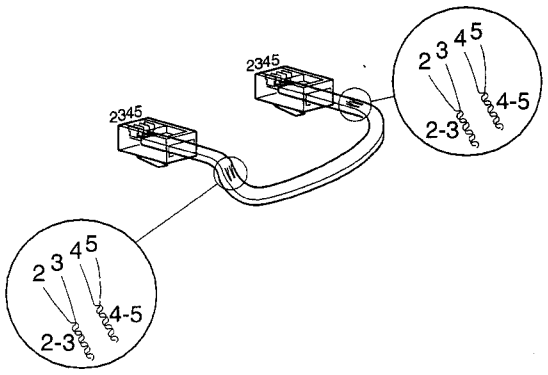


Figure D

The technical data of the system cable is as follows :

- system cable (2x2x0,5).
- Basic attenuation, loop resistance 16 Ohm (100 meter).
- Matching impedance 120 Ohm, >10 kHz
- Attenuation (for 100 meter) 5 dB for 5 MHz ± 20%
  2 dB for 1 MHz ± 20 %
- Signal to noise ratio, 0,1 to 5 MHz >50 dB
- Cross talk in pair: 5 MHz > 46 dB / 100 meter.
  50 kHz > 70 dB / 100 meter.

For the type numbers VSS2260/00R & 22MS605R & VS22605R

Installation

When the configuration is altered, the system must be scanned again. Therefore always switch off the system by means of the rear power switch when a camera or accessory is added or removed. Only operating the power save button is not sufficient.

***Remark**: Only the inputs to which cameras are connected can be selected or used by the monitor. It is therefore useless to connect an accessory to an input to which no camera is connected.*

Monitor

On the back of the monitor the following can be connected:

Cameras
Connect the camera to one of the camera inputs on the back of the monitor (fig. B-2). Correctly directing the camera at the object will be easier when the monitor is temporarily installed at the camera site.

VCR
For the recording and reproducing of pictures and sound a video recorder has to be connected to the input and output (VCR-audio/video in/out) on the back of the monitor (fig. B-2).
The VCR output can also be used to connect other peripheral equipment. For example, a video printer for hard copies.

Alarm contact
The alarm contact (make (N.O.) and break (N.C.)) of the monitor (fig. B-2) can, for instance, be used to start up a video recorder, siren or telephone selector.

Cable

A 4-wire system cable (see specifications) is supplied as standard.

For optimum picture and sound quality, a standard dual 'twisted-pair' (telephone) cable should be used.

There is an extensive range of plugs and tools available in the hobby and professional trade to extend the cable. Always ensure that the connection is made as shown in figure D (page 19).

***Caution:** The plugs used for the observation system have the same dimensions as standard telephone plugs. Never connect a telephone to the camera or system monitor.*

The maximum distance that can be bridged between the monitor and the cameras is **50 meters**.

Operation

Monitor

System on/off
By means of the system button (fig. B-2) the system can be switched on and off. When the system is switched off all the camera LED's are off and the auto (sequence) LED flashes periodical.

***Remark:** Use the system button to switch off the system when a camera or accessory is added or removed.*

Power save
By pushing the power save button (fig. B-1) the image and sound on the monitor can be switched off, thus saving power. When the system is in power save mode all the camera LED's are off and the auto (sequence) LED is on.

Brightness/contrast
With the brightness (fig. B-1) and contrast knob (fig. B-1) the picture can be adjusted to your personal preference or to the ambient conditions.

Volume
With the volume knob the sound level can be adjusted (fig. B-1).

Talk
By pushing the talk button (fig. B-1) the built-in microphone (fig. B-1) in the monitor is switched on. The sound from the microphone can be reproduced by means of an intercom box (optional).

Auto sequence
The monitor switches slowly between the pictures (image + sound) of the connected cameras.

***Remark:** The auto button is only functional when:*
- Camera mode is selected
- The observation system is enlarged to at least two cameras.

By pushing the auto button (fig. B-1) the automatic sequence function is started. The automatic interval sequence time (auto sequence time) can be adjusted between 4 and 60 seconds on the back of the monitor (fig. B-2).
In order to switch back to manual operation, push one of the camera preference buttons or the auto button.

Camera selection
A maximum of four cameras can be connected to the monitor. Choosing a camera is done with the camera selection keys 1, 2, 3 and 4 (fig. B-1), the appropriate LED lights up.

VCR
With this button (fig. B-1) the monitor is switched to **VCR** mode. The **VCR**-LED will light up. The signal which is supplied at the VCR input on the back of the monitor (fig. B-2) will be shown on the monitor.

Alarm

Alarm will sound if:
- there is a break in the camera line.

this is detected by a camera alarm input.

When an alarm sounds:
1) The system automatically switches to the corresponding camera input.
2) The corresponding camera LED will start to blink.
3) The built-in alarm buzzer will be audible for 15 seconds.
4) The alarm contact (fig. B-2) is changed over for 3 minutes.

The alarm contact can activate a video recorder, siren or telephone selector.
Alarm programming if required, an alarm in a particular camera line can be disabled. This may be necessary to disconnect the alarms of a door contact or movement detector during the daytime. However, the cable detection remains active at all times.
Push and hold the auto button together with the VCR button. The camera LED's on the monitor, the alarm function of which is active, will light up. The auto LED will blink fast. Push the corresponding camera selection button, the alarm of which has to be switched on or off (LED on = alarm on; LED off = alarm off).
If all camera lines are set, programming can be ended by pushing the auto button. The monitor will return to the status it had before programming.

Automatic alarm termination
After 3 minutes the monitor returns to the status it was in before the alarm was sounding. If the automatic camera sequence was active, it will be continued. However, the corresponding camera LED remains flashing for as long as the alarm line is active(alarm detector is still active) or the camera line is still cut.
Premature (within 3 minutes) alarm termination The alarm output (fig. B-5) will be de-activated by switching off the alarm. See alarm programming above. Pressing any key on the control panel of the monitor within 15 seconds will end the alarm sound only.
Alarm priority A new alarm always gets priority. The monitor will always switch to the camera of the last-received alarm but the LED(s) of each previously received alarm blink faster.

Tips for maintenance

Ventilation
Avoid overheating the system monitor by ensuring to it that the ventilation openings on the top of the monitor remain uncovered. Do not place the monitor in the immediate vicinity of a source of heating.

Cleaning
You can clean the system monitor with a moist, fluff-free cloth or chamois leather cloth.

The outside of the camera can be cleaned with a moist, fluff-free cloth or chamois leather cloth.

When cleaning the objective a special lens cleaning cloth should be used. Do NOT use cleaning fluids that contain alcohol, methylated spirit, ammonia, etc..

Avoid direct contact with water.

For the type numbers VSS4460/00T & VS44605T

Installation

The following can be connected on the rear of the monitor:
Connection system monitor - slave monitor Connect the slave video/audio output on the system monitor to the audio/video input on the slave monitor using;
- standard cinch connectors (fig. C-2) or
- a system cable (fig. C-2).

Connection slave monitor - slave monitor Connect the video/audio input on the slave monitor with the video/audio output of the previous slave monitor (fig. C-2). Multiple slave monitors can be connected together in a chain.
Connection camera - slave monitor When the slave monitor is not connected to a system monitor you can connect a system camera to the system input (fig. C-2).
Read these instructions, before putting your system in operation.

Operation

Power save
By pressing the power save button (fig C-1) the monitor picture and sound can be switched on or off.
The monitor continues to feed the sound and picture through to the video/audio output.

System on/off.
By means of the system button (fig. C-2) the system can be switched on and off.

Remark: *Use the system on/off button to switch off the system when you change the configuration of the system.*

Brightness/contrast
With the brightness and contrast control (fig. C-1) your can adjust the picture to your personal preference or the surrounding conditions.

Volume
With the volume control you can adjust the sound level (fig. C-1).

Tips for maintenance

Ventilation
Avoid overheating the monitor by ensuring to it that the ventilation openings on the top of the monitor remain uncovered. Do not place the monitor in the immediate vicinity of a source of heating.

Cleaning
You can clean the monitor with a moist, fluff-free cloth or chamois leather cloth.
Avoid direct contact with water.

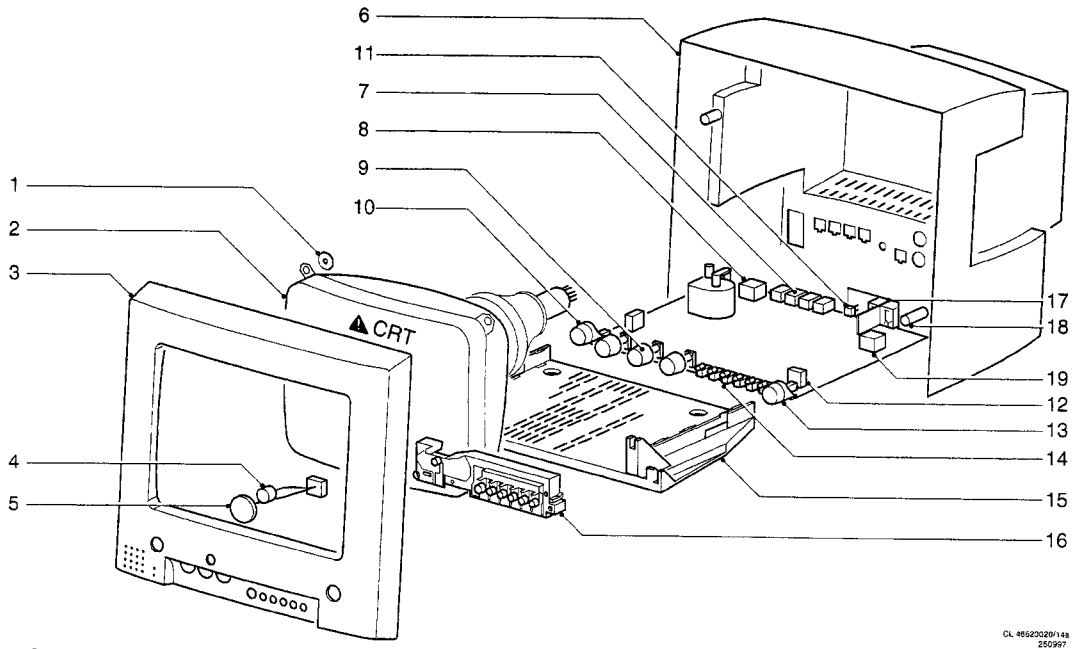
11. Abbreviations

µP	Micro processor
10S ENABLE	Enable +10S (for STBY mode)
A0/A1	Binairy camera selection
ACTION-OUT	BEEP to Intercom via TP modulator
ALARM-OUT	Relay alarm output
AUDIO-MUTE	Audio mute
AUDIO-OUT	Audio output for cinch (rear monitor)
AUDIO-TP	Camera audio from TP input
BEEP	Beep
CAM1 to CAM4	Camera indication LED
CRT	Cathode ray tube
EHT	Extra High Tension
ESD	Electric Static Discharge
HFB	Horizontal feed-back
HOR	Horizontal deflection
INP-SEQ	Next camera input from timer
LOT	Line output transformer
NEG-VIDEO	Negative Video signal
NEXT-CAM	Next camera input (POS only)
PLL	Phase Lock Loop
POS	Philips Observation System
POS-VIDEO	Positive video signal
PTC	Positive Temperature Coefficient
RESET-SEQ	Reset camera sequence timer
SELECT 0 to SELECT 3	Select camera 1 to 4
SLAVE-AUDIO/VIDEO	For slave twisted Pair output
SMPS	Switch mode power supply
STBY	Shut down of deflection and CRT part
SYS	System
TALK	Communication with intercom
TP	Twisted Pair telephone cable
TWOWAY/CAM	Two way camera audio
V. DEFL	Vertical deflection coil
VCAM1 to VCAM4	Supply voltage for camera 1 to 4
VCC1	Reference voltage (9,8V)
VCR	Video cassette recorder
VCR/CAM	Input select VCR or Camera
VFB	Vertical feedback
Vg1	Voltage grid 1
Vg2	Voltage grid 2
VIDEO-MON	Video for CRT
VS2 to VS5	Inserted for Slave functionality
+10S	Filament voltage
+24V	Camera's and Relay power supply
+10V	µP and TP interface power supply
+24S	Deflection and Line output stage
	Power supply

12. Spare Parts list

Mechanical

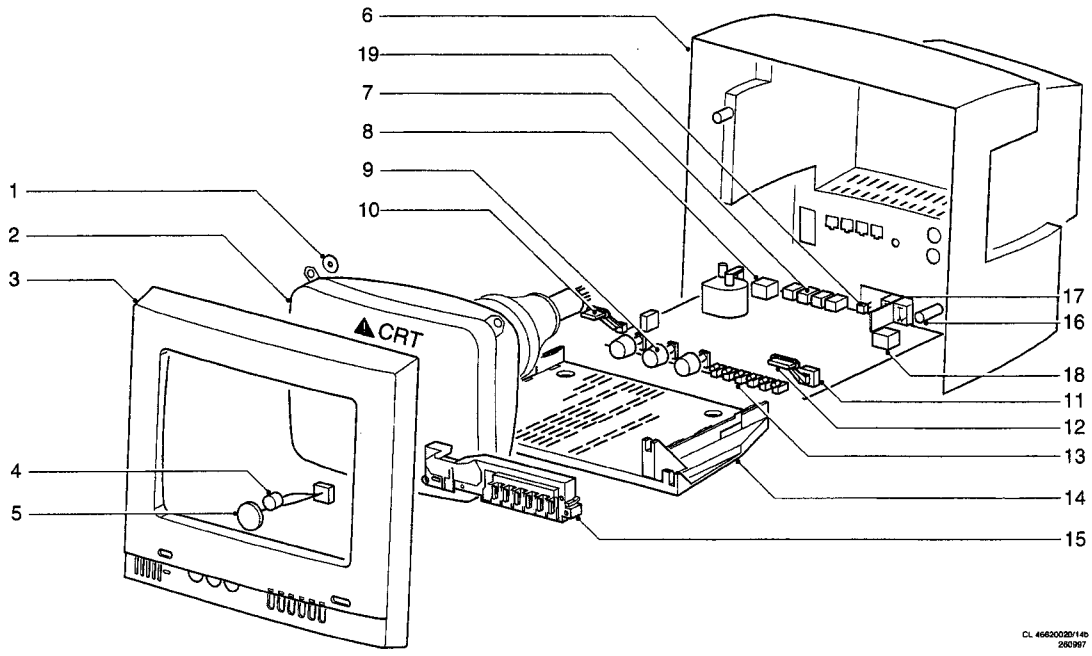
VSS2360/00T & VS23605T & VS23655T (POS)



CL 46520020/14a
250997

Pos.	Service Code	Description	Pos.	Service Code	Description	Pos.	Service Code	Description
1	5322 401 11314	CRT ring	8	4822 265 11114	Screw block	17	4822 265 11113	Cinch connector
2	4822 131 20473	Picture tube	9	4822 413 41882	Knob	18	4822 410 63859	On/off knob
3	4822 441 12078	Front assy PAL	10	4822 410 63486	Action button	19	4822 276 13483	On/off switch
3	4822 441 12076	Front assy NTSC	11	4822 100 20887	Potmeter sequence			
4	4822 242 10696	Microphone	12	4822 276 13554	Stand-by switch		4822 256 92332	Speaker ring
5	4822 240 10157	Loudspeaker	13	4822 410 63485	Stand-by knob			
6	4822 426 10551	Rear cover PAL	14	4822 255 41346	Led holder			
6	4822 426 10549	Rear cover NTSC	15	4822 435 60076	Bottom plate			
7	4822 276 41181	Camera inputs	16	4822 410 63484	Knob frame			

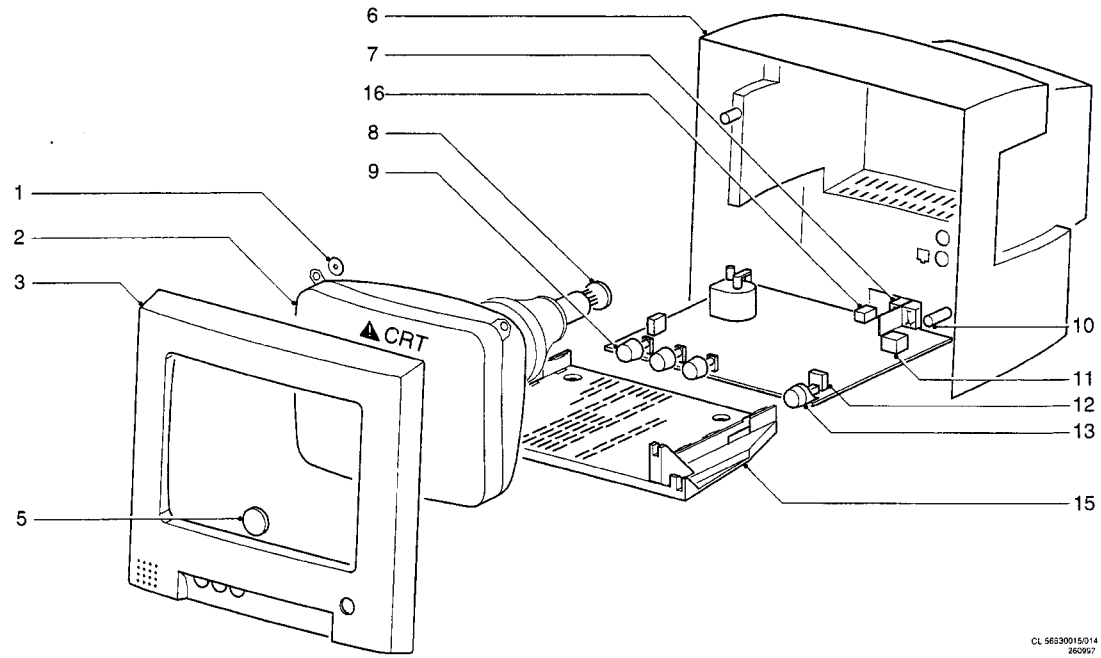
VSS2260/00R & 22MS605R & VS22605R (Retail)



CL 46620020/14b 260997

Pos.	Service Code	Description	Pos.	Service Code	Description	Pos.	Service Code	Description
1	5322 401 11314	CRT ring	8	4822 267 41179	Screw block	17	4822 265 11113	Cinch connector
2	4822 131 20473	Picture tube	9	4822 413 41886	Knob	18	4822 276 13483	On/off switch
3	4822 441 12074	Front VSS2260/00R	10	4822 410 63489	Action button	19	4822 100 20887	Sequence time potmeter
3	4822 459 04745	Front 22MS605R	11	4822 276 13554	Stand-by switch			
3	4822 459 04134	Front VS22605R	12	4822 410 63488	Stand-by knob		4822 256 92332	Speaker ring
4	4822 242 10696	Microphone	13	4822 255 41347	Led holder			
5	4822 240 10157	Loudspeaker	14	4822 435 60077	Bottom plate			
6	4822 426 10558	Rear cover	15	4822 410 63487	Knob frame			
7	4822 276 41181	Camera inputs	16	4822 410 63859	On/off knob			

VSS4460/00T & VS44605T (Slave)



CL 56330015/014 260997

Pos.	Service Code	Description	Pos.	Service Code	Description	Pos.	Service Code	Description
1	5322 401 11314	CRT ring	7	4822 265 11113	Cinch connector	15	4822 435 60076	Bottom plate
2	4822 131 20473	Picture tube	8	4822 255 70167	Socket for CRT	16	4822 276 41181	Slave input
3	4822 441 12077	Front assy PAL	9	4822 413 41882	Knob			
3	4822 441 12075	Front assy NTSC	10	4822 410 63859	On/off knob			
5	4822 240 10157	Loudspeaker	11	4822 276 13483	On/off switch			
6	4822 426 10547	Rear cover PAL	12	4822 276 11237	Stand-by switch			
6	4822 426 10548	Rear cover NTSC	13	4822 410 63485	Stand-by knob			

Electrical

Various

	4822 462 11005	Tripod assy (black)
	4822 462 10507	Tripod assy (grey)
	4822 413 41885	Knob Black
	4822 413 41884	Knob Grey
	4822 321 62697	Telephone cable 25M
	4822 321 62696	Telephone cable 15M
	4822 267 41225	Connector 4 P.
▲	4822 401 11552	Pull relief
	4822 255 70167	Socket for CRT
▲	4822 492 71337	Spring (Fuse holder)
	4822 240 10157	Loudspeaker
1002▲	4822 131 20473	Picture tube
1002	4822 150 10343	Deflection unit
	4822 242 10696	Microphone
1100▲	4822 070 31002	Fuse (1A)
1110	4822 276 13483	On/Off Switch
1111	4822 276 13554	Stand - by Switch
1112	4822 276 13269	Selection Switch
1113	4822 276 13269	Selection Switch
1114	4822 276 13269	Selection Switch
1115	4822 276 13269	Selection Switch
1116	4822 276 13269	Selection Switch
1117	4822 276 13269	Selection Switch
1118	4822 276 13269	Selection Switch
1800	4822 267 41181	Connector 6P
1801	4822 267 41181	Connector 6P
1802	4822 267 41181	Connector 6P
1803	4822 267 41181	Connector 6P
1805	4822 267 41181	Connector 6P
1810	4822 265 11113	Connector 4P
1811	4822 265 31245	Connector 4P
1825	4822 267 41179	Connector 3P
1825	4822 265 11114	Connector 5P
1910	4822 242 81965	Ceramic filter 11,0 MHz

⊣⊢

2100	4822 121 70677	330nF 20% 275V
2103▲	4822 121 42004	10nF 10% 400V
2105▲	4822 124 22491	47µF 30% 385V
2106	4822 122 33802	2.2nF 10% B 1KV
2110	4822 121 51305	15nF 10% 50V
2111	4822 122 40606	22nF 80% 50V
2112	4822 124 22678	100µF 20% 16V
2113	4822 122 33302	1nF 5% 50V
2114	4822 122 33302	1nF 5% 50V
2115	4822 124 40756	1µF 20% 100V
2118	4822 124 40756	1µF 20% 100V
2133▲	4822 126 13682	100pF 5% 1KV
2134▲	4822 122 32576	2.2nF 400V
2135▲	4822 122 32576	2.2nF 400V
2136	4822 126 10334	470pF 10% 50V
2140	4822 124 22263	220µF 20% 25V
2141	4822 124 22263	220µF 20% 25V
2149	4822 122 33646	470pF 10% 500V
2150	4822 122 40606	22nF 80% 50V
2151	4822 124 41579	10µF 20% 50V
2160	4822 122 33646	470pF 10% 500V
2161	5322 124 41468	1000µF 20% 40V
2162	4822 124 40756	1µF 20% 100V
2163	4822 122 40606	22nF 80% 50V
2180	5322 121 42578	100nF 5% 250V
2181	4822 122 40606	22nF 80% 50V
2301	5322 124 40641	10µF 20% 100V
2305	4822 124 81029	100µF 20% 25V
2401	5322 121 42386	100nF 5% 63V
2402	4822 124 41643	100µF 20% 16V
2403	4822 124 81125	470µF 20% 35V
2405	5322 121 42578	100nF 10% 100V
2406	5322 121 42386	100nF 5% 63V
2409	4822 124 40433	47µF 20% 25V
2410	4822 124 40433	47µF 20% 25V
2412	4822 124 40201	1000µF 20% 16V
2413	5322 121 42578	100nF 10% 100V
2414	4822 126 13461	680pF 10% 50V
2420	4822 124 40242	1µF 20% 63V
2422	4822 121 51442	2.2nF 10% 50V
2423	4822 121 42783	2.2nF 1% 250V
2425	4822 121 41856	22nF 5% 250V
2427	4822 121 43526	47nF 5% 250V
2490	4822 124 40433	47µF 20% 25V
2530	4822 121 70546	20nF 5% 630V
2531	4822 121 42034	3.3µF 10% 100V
2536	4822 124 41579	10µF 20% 50V
2540	4822 124 11867	100µF 20% 35V
2551	4822 124 80676	4.7µF 20% 160V
2700	5322 121 42925	150nF 10% 100V
2704	5322 121 42386	100nF 5% 63V
2706	4822 122 33302	1nF 5% 50V
2710	4822 121 43526	47nF 5% 250V
2715	4822 121 41689	100nF 10% 250V
2801	4822 124 40433	47µF 20% 25V
2809	4822 126 13497	68pF 5% 50V
2810	4822 124 40756	1µF 20% 100V
2811	4822 126 13497	68pF 5% 50V
2812	4822 126 13375	33pF 5% 50V
2813	4822 126 13375	33pF 5% 50V
2814	4822 126 13376	120pF 5% 50V
2815	4822 122 40606	22nF 80% 50V
2816	4822 122 40606	22nF 80% 50V
2817	4822 122 40606	22nF 80% 50V
2818	4822 124 40756	1µF 20% 100V
2819	4822 124 41579	10µF 20% 50V
2820	4822 126 12158	100nF 100V
2821	4822 124 41579	10µF 20% 50V
2822	4822 121 42408	220nF 5% 63V
2823	4822 126 13378	33pF 5% 50V
2824	4822 126 13378	33pF 5% 50V
2825	4822 124 41579	10µF 20% 50V
2826	4822 124 41579	10µF 20% 50V
2827	4822 124 41579	10µF 20% 50V
2828	4822 124 41579	10µF 20% 50V
2829	4822 122 33307	10nF 5% 50V
2830	4822 122 40606	22nF 80% 50V
2832	4822 122 40606	22nF 80% 50V
2833	4822 126 12825	12pF 5% 50V
2834	4822 122 33307	10nF 5% 50V
2835	4822 122 40606	22nF 80% 50V
2836	4822 124 41579	10µF 20% 50V
2837	4822 122 40606	22nF 80% 50V
2838	4822 124 41579	10µF 20% 50V
2841	4822 126 12158	100nF 100V
2842	5322 121 42578	100nF 5% 250V
2843	4822 126 13462	4.7nF 20% 50V
2845	4822 126 12158	100nF 100V
2846	4822 126 13462	4.7nF 20% 50V
2848	4822 122 40606	22nF 80% 50V
2849	4822 122 40606	22nF 80% 50V
2850	4822 124 81029	100µF 20% 25V
2851	5322 121 42578	100nF 5% 250V
2872	4822 124 22263	220µF 20% 25V
2888	4822 124 41579	10µF 20% 50V
2890	4822 124 40433	47µF 20% 25V
2891	4822 124 40756	1µF 20% 100V
2892	4822 124 40756	1µF 20% 100V
2893	4822 122 40606	22nF 80% 50V
2894	4822 124 40433	47µF 20% 25V
2895	4822 124 40433	47µF 20% 25V
2896	4822 126 13497	68pF 5% 50V
2899	4822 124 41579	10µF 20% 50V
2901	4822 122 40606	22nF 80% 50V
2902	4822 124 40756	1µF 20% 100V
2910	4822 126 13378	33pF 5% 50V
2911	4822 126 13378	33pF 5% 50V
2913	4822 122 40606	22nF 80% 50V

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3101▲	4822 053 21475	4M7 5% 0.5W
3102▲	4822 053 21475	4M7 5% 0.5W
3103▲	4822 116 30478	NTC
3104▲	4822 053 20474	470k 5% 0.25W
3105	4822 053 11473	47k 5% 2W
3106	4822 053 11473	47k 5% 2W
3107	4822 117 10812	22k 5% 2W
3108	4822 050 24708	4Ω7 1% 0.6W
3110	4822 116 52263	2k7 5% 0.5W
3113	4822 116 52245	150k 5% 0.5W
3114	4822 116 52219	330Ω 5% 0.5W
3116	4822 116 52283	4k7 5% 0.5W
3117	4822 100 20166	10k Potmeter
3118	4822 116 52257	22k 5% 0.5W
3121	4822 116 52276	3k9 5% 0.5W
3122	4822 116 52283	4k7 5% 0.5W
3131	4822 116 52256	2k2 5% 0.5W
3132	4822 116 80176	1Ω 5% 0.5W
3134	4822 116 52182	15Ω 5% 0.5W
3135	4822 116 52213	180Ω 5% 0.5W
3149▲	4822 117 12852	PTC
3150▲	4822 052 10109	10Ω 5% 0.33W
3180	4822 116 83872	220Ω 5% 0.5W
3301	4822 116 52245	150k 5% 0.5W
3302	4822 100 20889	470k Potmeter
3306	4822 100 20888	1k Potmeter
3307	4822 050 11002	1k 1% 0.4W
3308	4822 116 52226	560Ω 5% 0.5W
3310	4822 116 83868	150Ω 5% 0.5W
3400▲	4822 051 10569	56Ω 2% 0.25W
3401	4822 050 11502	1k5 1% 0.4W
3402	4822 116 52278	390k 5% 0.5W
3403	4822 050 11002	1k 1% 0.4W
3404	4822 116 52228	680Ω 5% 0.5W
3405	4822 116 81783	1M5 5% 0.5W
3406	4822 050 11002	1k 1% 0.4W
3407	4822 116 52193	39Ω 5% 0.5W
3408▲	4822 052 10228	2Ω2 5% 0.33W
3409▲	4822 052 10229	22Ω 5% 0.33W
3411	4822 116 52175	100Ω 5% 0.5W
3412	4822 050 11002	1k 1% 0.4W
3413	4822 100 11391	330Ω Potmeter
3414	4822 116 52297	68k 5% 0.5W
3417	4822 116 52305	820k 5% 0.5W
3418	4822 116 52239	120k 5% 0.5W
3419	4822 050 26808	6Ω8 1% 0.6W
3420	4822 116 52234	100k 5% 0.5W
3421	4822 116 83864	10k 5% 0.5W
3423	4822 050 13603	36k 1% 0.4W
3425	4822 116 52244	15k 5% 0.5W
3426	4822 116 52176	10Ω 5% 0.5W
3430	4822 116 52175	100Ω 5% 0.5W
3431	4822 116 52195	47Ω 5% 0.5W
3531	4822 116 83961	6k8 5%
3533	4822 053 10102	1k 5% 1W
3535	4822 116 52256	2k2 5% 0.5W
3536	4822 116 83864	10k 5% 0.5W
3550▲	4822 052 11109	10Ω 5% 0.5W
3700	4822 053 10103	10k 5% 1W
3701	4822 050 21502	1k5 1% 0.6W
3702	4822 116 52285	470k 5% 0.5W
3704	4822 050 11002	1k 1% 0.4W
3706	4822 116 52207	1k2 5% 0.5W
3708	4822 116 52219	330Ω 5% 0.5W
3709	4822 116 52257	22k 5% 0.5W
3710	4822 116 52244	15k 5% 0.4W
3711	4822 053 10109	10Ω 5% 1W
3715	4822 116 52244	15k 5% 0.5W
3716	4822 116 52285	470k 5% 0.5W
3800	4822 116 52175	100Ω 5% 0.5W
3801	4822 116 52175	100Ω 5% 0.5W
3802	4822 116 52238	12k 5% 0.5W
3803	4822 116 52263	2k7 5% 0.5W
3804	4822 116 83864	10k 5% 0.5W
3805	4822 116 52283	4k7 5% 0.5W
3806	4822 116 52283	4k7 5% 0.5W
3807	4822 116 52257	22k 5% 0.5W
3808	4822 116 52283	4k7 5% 0.5W
3809	4822 116 52235	1M 5% 0.5W
3810	4822 116 52283	4k7 5% 0.5W
3811	4822 116 52283	4k7 5% 0.5W
3812	4822 116 52269	3k3 5% 0.5W
3813	4822 116 52283	4k7 5% 0.5W
3814	4822 100 20887	47k Potmeter
3815	4822 116 83884	47k 5% 0.5W
3816	4822 116 52238	12k 5% 0.5W
3817	4822 116 83884	47k 5% 0.5W
3818	4822 116 83864	10k 5% 0.5W
3819	4822 116 83864	10k 5% 0.5W
3820	4822 117 11487	62Ω 1% 0.4W
3821	4822 117 11487	62Ω 1% 0.4W
3822	4822 116 52226	560Ω 5% 0.5W
3823	4822 116 83864	10k 5% 0.5W
3824	4822 053 10561	560Ω 5% 1W
3825	4822 116 52175	100Ω 5% 0.5W
3826	4822 116 52175	100Ω 5% 0.5W
3827	4822 117 11487	62Ω 1% 0.4W
3828	4822 117 11487	62Ω 1% 0.4W
3829	4822 116 52226	560Ω 5% 0.5W
3830	4822 116 83864	10k 5% 0.5W
3831	4822 116 83864	10k 5% 0.5W
3832	4822 116 52283	4k7 5% 0.5W
3833	4822 116 52283	4k7 5% 0.5W
3834	4822 117 11487	62Ω 1% 0.4W
3835	4822 117 11487	62Ω 1% 0.4W
3836	4822 116 52226	560Ω 5% 0.5W
3837	4822 116 83864	10k 5% 0.5W
3838	4822 050 11002	1k 1% 0.4W
3840	4822 116 52283	4k7 5% 0.5W
3841	4822 117 11487	62Ω 1% 0.4W
3842	4822 117 11487	62Ω 1% 0.4W
3843	4822 116 52226	560Ω 5% 0.5W
3844	4822 116 83864	10k 5% 0.5W
3844	4822 116 52176	10Ω 5% 0.5W
3845	4822 116 83864	10k 5% 0.5W
3847	4822 116 52252	180k 5% 0.5W
3848	4822 116 83883	470Ω 5% 0.5W
3849	4822 116 52175	100Ω 5% 0.5W
3850	4822 116 52219	330Ω 5% 0.5W
3851	4822 116 52175	100Ω 5% 0.5W
3852	4822 116 52256	2k2 5% 0.5W
3853▲	4822 052 10229	22Ω 5% 0.33W
3854	4822 050 12709	27Ω 1% 0.4W
3855	4822 116 52175	100Ω 5% 0.5W
3856	4822 116 52175	100Ω 5% 0.5W
3857	4822 116 52226	560Ω 5% 0.5W
3858	4822 116 83864	10k 5% 0.5W
3859	4822 116 83864	10k 5% 0.5W
3860	4822 116 83864	10k 5% 0.5W
3861	4822 116 83864	10k 5% 0.5W
3862	4822 050 12709	27Ω 1% 0.4W
3863	4822 116 83864	10k 5% 0.5W
3864	4822 116 83864	10k 5% 0.5W
3865	4822 116 52199	68Ω 5% 0.5W
3866	4822 116 83872	220Ω 5% 0.5W
3867	4822 116 83872	220Ω 5% 0.5W
3868	4822 116 83864	10k 5% 0.5W
3869	4822 116 83864	10k 5% 0.5W
3870	4822 116 52175	100Ω 5% 0.5W
3871	4822 116 52283	4k7 5% 0.5W
3872	4822 050 11002	1k 1% 0.4W
3873	4822 116 52201	75Ω 5% 0.5W
3874	4822 116 52239	120k 5% 0.5W
3875	4822 116 83884	47k 5% 0.5W
3876	4822 116 83864	10k 5% 0.5W
3877	4822 116 83874	220k 5% 0.5W
3878	4822 100 30194	47k Potmeter
3879	4822 116 83864	10k 5% 0.5W
3880	4822 116 83884	47k 5% 0.5W
3881▲	4822 052 10229	22Ω 5% 0.33W
3882	4822 116 52283	4k7 5% 0.5W
3883	4822 116 52175	100Ω 5% 0.5W
3884	4822 116 52276	3k9 5% 0.5W
3885	4822 116 52207	1k2 5% 0.5W
3886	4822 050 11002	1k 1% 0.4W
3887	4822 116 52256	2k2 5% 0.5W
3888	4822 116 52222	390Ω 5% 0.5W
3889	4822 116 83883	470Ω 5% 0.5W
3890	4822 116 83883	470Ω 5% 0.5W
3891	4822 116 52256	2k2 5% 0.5W
3892	4822 116 52283	4k7 5% 0.5W
3893	4822 116 83864	10k 5% 0.5W
3894	4822 116 52283	4k7 5% 0.5W
3895	4822 116 52271	33k 5% 0.5W
3896	4822 116 52243	1k5 5% 0.5W
3897	4822 116 52219	330Ω 5% 0.5W
3898	4822 116 52239	120k 5% 0.5W
3899	4822 116 83872	220Ω 5% 0.5W
3900	4822 116 52283	4k7 5% 0.5W
3901	4822 116 52193	39Ω 5% 0.5W
3902	4822 116 52256	2k2 5% 0.5W
3903	4822 116 52257	22k 5% 0.5W
3904	4822 116 52193	39Ω 5% 0.5W
3905	4822 116 52249	1k8 5% 0.5W
3906	4822 050 11002	1k 1% 0.4W
3907	4822 117 11487	62Ω 1% 0.4W
3908	4822 117 11487	62Ω 1% 0.4W
3909▲	4822 117 12852	PTC
3910	4822 116 52283	4k7 5% 0.5W
3911	4822 116 52256	2k2 5% 0.5W
3912	4822 116 52257	22k 5% 0.5W
3915	4822 116 52219	330Ω 5% 0.5W
3916	4822 116 52283	4k7 5% 0.5W
3920	4822 050 11002	1k 1% 0.4W
3921	4822 116 52283	4k7 5% 0.5W
3925	4822 050 11002	1k 1% 0.4W
3926	4822 116 52283	4k7 5% 0.5W
3927	4822 116 52283	4k7 5% 0.5W
3928	4822 116 52235	1M 5% 0.5W
3930	4822 050 11002	1k 1% 0.4W
3931	4822 116 52283	4k7 5% 0.5W
3935	4822 050 11002	1k 1% 0.4W
3936	4822 116 52283	4k7 5% 0.5W
3940	4822 050 11002	1k 1% 0.4W
3941	4822 050 11002	1k 1% 0.4W
3942	4822 116 83864	10k 5% 0.5W
3943	4822 116 83864	10k 5% 0.5W
3950	4822 116 52256	2k2 5% 0.5W
3951	4822 116 52256	2k2 5% 0.5W
3952	4822 116 52256	2k2 5% 0.5W
3953	4822 116 52256	2k2 5% 0.5W
3954	4822 116 52283	4k7 5% 0.5W
3955	4822 116 52283	4k7 5% 0.5W
3956	4822 116 52283	4k7 5% 0.5W
3957	4822 116 52283	4k7 5% 0.5W
3958	4822 116 52283	4k7 5% 0.5W
3959	4822 116 52283	4k7 5% 0.5W
3960	4822 116 52283	4k7 5% 0.5W
3961	4822 116 52283	4k7 5% 0.5W
3962	4822 116 52283	4k7 5% 0.5W
3963	4822 116 52283	4k7 5% 0.5W
3964	4822 116 52226	560Ω 5% 0.5W
3965	4822 116 83864	10k 5% 0.5W
3966	4822 116 52199	68Ω 5% 0.5W
3967▲	4822 117 12852	PTC
3968▲	4822 117 12852	PTC
3969▲	4822 117 12852	PTC
3970▲	4822 117 12852	PTC
3971	4822 116 83883	470Ω 5% 0.5W
3972	4822 116 83883	470Ω 5% 0.5W
3973	4822 116 83883	470Ω 5% 0.5W
3974	4822 116 83883	470Ω 5% 0.5W
3980	4822 116 52283	4k7 5% 0.5W
3982	4822 116 83864	10k 5% 0.5W
3983	4822 116 83864	10k 5% 0.5W
3990	4822 050 11002	1k 1% 0.4W
3991	4822 050 11002	1k 1% 0.4W
3992	4822 116 52243	1k5 5% 0.5W
3994	4822 050 11002	1k 1% 0.4W

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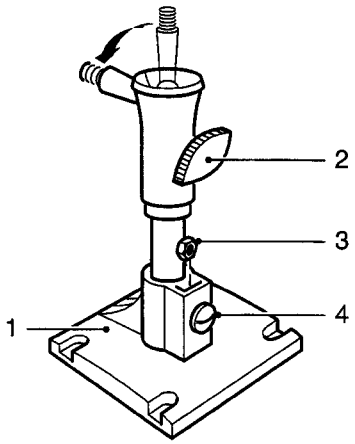
5100▲	4822 157 53348	Choke
5130▲	4822 146 31412	SOPS
5141	4822 157 60286	100µH
5160	4822 157 60286	100µH
5162	4822 157 60286	100µH
5540▲	4822 140 10558	LOT
5560	4822 157 63249	33µH
5810	4822 157 71342	6mH
5826	4822 156 20915	33µH

6102▲	4822 130 83707	Bridge rectifier
6108	4822 130 42489	BYD33G
6110	4822 130 30621	1N4148
6118	4822 130 30621	1N4148
6119	4822 130 30621	1N4148
6121	4822 130 34499	BZX79-B20
6140	4822 130 42488	BYD33D
6160	4822 130 31628	BYV27-150
6180▲	5322 130 24081	BT151-650R
6181	4822 130 34379	BZX79-B27
6301	4822 130 34142	BZX79-B33
6302	4822 130 30621	1N4148
6407	4822 130 34233	BZX79-B5V1
6430	4822 130 30621	1N4148
6431	4822 130 30621	1N4148
6432	4822 130 42488	BYD33D
6530	4822 130 42489	BYD33G
6531	4822 130 30842	BAV21
6536	4822 130 34233	BZX79-C5V1
6550	4822 130 30842	BAV21
6700	4822 130 30842	BAV21
6705	4822 130 30621	1N4148
6709	4822 130 30842	BAV21
6710	4822 130 34233	BZX79-B5V1
6800	5322 130 34825	BB204G
6805	4822 130 31024	BZX79-C18
6806	4822 130 34197	BZX79-C12
6808	4822 130 42488	BYD33D
6809	4822 130 34142	BZX79-C33
6810	4822 130 42488	BYD33D
6811	4822 130 34142	BZX79-C33
6815	4822 130 31983	BAT85
6820	5322 130 31882	BZT03-C10
6821	5322 130 31882	BZT03-C10
6827	5322 130 31882	BZT03-C10
6828	5322 130 31882	BZT03-C10
6829	4822 130 30621	1N4148
6830	4822 130 30621	1N4148
6831	4822 130 30621	1N4148
6832	4822 130 30621	1N4148
6834	5322 130 31882	BZT03-C10
6835	5322 130 34955	BA482
6836	5322 130 31882	BZT03-C10
6838	4822 130 34233	BZX79-B5V1
6841	5322 130 31882	BZT03-C10
6842	5322 130 31882	BZT03-C10
6890	4822 130 30621	1N4148
6892	4822 130 61219	BZX79-B10
6910	4822 130 30621	1N4148
6915	4822 130 83088	TLHG5405
6916	4822 130 31983	BAT85
6920	4822 130 83088	TLHG5405
6925	4822 130 83088	TLHG5405
6930	4822 130 83088	TLHG5405
6935	4822 130 82948	TLHR5401
6940	4822 130 82948	TLHR5401
6943	5322 130 34563	BZX79-C2V7

7110	4822 209 90755	UC3842AN
7130▲	4822 130 10166	MTP3N60
7130▲	4822 130 62753	BUK455
7150	5322 209 86445	LM7805CT
7405	4822 209 63819	TEA2037A
7530	5322 130 60135	BU806
7535	4822 130 40995	BD438
7536	4822 130 40937	BC548B
7700	4822 130 41782	BF422
7800	4822 130 41448	BF324
7809	4822 130 44246	BC549C
7810	5322 209 61487	LM358N
7811	4822 130 44197	BC558B
7812	4822 130 40937	BC548B
7813	4822 130 40937	BC548B
7814	4822 130 40937	BC548B
7815	4822 130 44197	BC558B
7816	4822 130 44197	BC558B
7817	4822 130 44197	BC558B
7818	4822 130 44197	BC558B
7819	4822 130 40937	BC548B
7820	4822 209 60002	74HC4052
7821	4822 130 40937	BC548B
7822	4822 130 40937	BC548B
7823	4822 130 40937	BC548B
7824	4822 130 40937	BC548B
7825	4822 130 44197	BC558B
7826	4822 130 40937	BC548B
7827	4822 130 44197	BC558B
7830	5322 209 11296	74HC4053N
7832	4822 130 40937	BC548B
7850	4822 209 60956	TDA7052/N2
7875	4822 209 15934	µP
7880	4822 130 40937	BC548B
7881	4822 130 44197	BC558B
7882	4822 130 40937	BC548B
7883	4822 130 44197	BC558B
7884	4822 130 44197	BC558B
7885	4822 130 44197	BC558B
7886	4822 130 44197	BC558B
7888	4822 130 40937	BC548B
7889	4822 130 40937	BC548B
7890	4822 130 40937	BC548B
7891	4822 130 40937	BC548B
7895	4822 280 80784	Relay
7915	4822 130 40937	BC548B
7920	4822 130 40937	BC548B
7925	4822 130 40937	BC548B
7930	4822 130 40937	BC548B
7935	4822 130 40937	BC548B
7940	4822 130 40937	BC548B
7942	4822 130 41327	BC327-40
7943	4822 130 40937	BC548B



1	4822 462 11005	Tripod assy (black)
1	4822 462 10507	Tripod assy (grey)
2	4822 413 41885	Knob Black
2	4822 413 41884	Knob Grey
3	4822 505 10665	M5 lock
4	4822 502 21582	M5 x 8 screw

Service
Service
Service

OP04 **98.05**

Service Information

NORTH-AMERICAN MODELS:
Service Manual: 8109 Sup. 2

This Service information is valid for the VM6 POS (VSS2360/00T & VS23605T & VS23655T), the VM6 Retail (VSS2260/00R & 22MS605R & VS22605R) and the VM6 Slave (VSS4460/00T & VS44605T) and can be used in addition to Service manual 4822 727 21404.

Herewith a possible symptom is given with its solution which can take place :

⇒ Due to tolerances of components it can occur - in some cases - that the system power supply will not start-up or will start-up after about 2 to 10 minutes, regardless the amount of camera's that is attached to the system. It mostly will occur at low mains voltages. When the control IC (7110) of the SOPS draws almost 1mA of input current at pin 7 the threshold of about 17V5 will not be reached and the power supply will not start-up.
The solution for this problem is to exchange D6121 (20 volt Zener) with a Zener diode of 24 volt (4822 130 34398).
Remark : It is advised to exchange the Zener diode precautionary when the monitor comes for a repair at the repair centre.

⇒ In the Service Manual of the VM6 family with code number 4822 727 21404 there are on page 25 (Spare Parts list) two different types of transistors mentioned for 7130. It is adviced to use for 7130 the MTP3N60 type with code number 4822 130 10166.

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PCS 97 100 GB

PHILIPS

Survey of changes for the VM6 family

CP-number:	Change Note:	Type numbers:	
CP88239	AT27-06-1527	VS/VSS23+22+44xx	
Introduction:			
OP.. 9743	Changed	Item:	Service code:
		5130 from 4822 146 31412 into	4822 146 11051
		3118 from 4822 116 52257 into	4822 116 52251
	add:	3133 was reserved into 3R3	4822 053 11338
	Reason:	Improvement power delivery of the power supply	

CP-number:	Change Note:	Type numbers:	
CP88241	AT27-06-1494	VS/VSS23+22+44xx	
Introduction:			
OP.. 9747	Changed	Item:	Service code:
		3814 from 4822 100 20887 into	4822 101 11908
		2820 from 4822 126 12158 into	5322 121 42578
		2841 idem	5322 121 42578
		2845 idem	5322 121 42578
	Reason:	Introduction of new "dwell time pot-meter"	
		Other type of the capacitors	

CP-number:	Change Note:	Type numbers:	
CP11704	AT27-06-1496	VSS/VS22xx+23xx	
Introduction:			
OP.. 9748	Changed	Item:	Service code:
		7875 µP (PCB80C51BH) version F1.0 into F1.1	4822 209 15934
	Reason:	Change of the talk key functionality.	

CP-number:	Change Note:	Type numbers:	
CP12815	AT27-06-1631	VS/VSS23+22+44xx	
Introduction:			
OP04 9816	Changed	Item:	Service code:
		6121 from 4822 130 34499 BZX79-C20 into BZX79-C24	4822 130 34398
		(Zener was 20 Volt becomes 24 Volt)	
	Reason:	Due to component tolerances, some sets don't start up at low mains voltages	

Philips Consumer Service GmbH
Colonia-Allee 11, 51067 Köln
Tel.: 0221/96960-0, Fax: 0221/96960-809

PHILIPS

Art. Code:	AC 11	**Wichtig für die Werkstatt!**	
Sachgebiet:	OBSERVATION SYSTEM	Nummer:	4822 830 11012
Memo:	DE10BUD	Datum:	18.06.1998

Service Information

Betrifft: VCM8637 + 38

Verteiler: Sh

Überwachungskamera VCM8637 (4mm) und VCM8638 (8mm) von Basissystem VSS2360

Service bei defekter Kamera mit oben angegebener Typennummer.

Für beide Kameratypen ist kein Service in Form von Reparatur vorgesehen!

Die defekte Kamera senden an:

Philips Consumer Service GmbH
Colonia Allee 11
51067 Köln
Tel.: 0221 96 96 0-0
Fax: 0221 96 96 0-809

Dort wird die Kamera überprüft und gegebenenfalls ausgetauscht.
Aus diesem Grund unbedingt genau Fehlerangabe der Kamera beifügen!

Hinweis:
Es stehen für diese Kameratypen keine Servicemanuals und Ersatzteile von Euroservice Ersatzteilvertrieb Hamburg zur Verfügung!

Form 80 048

Nachdruck nicht gestattet! Änderungen vorbehalten.

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PHILIPS

Art. Code:	AC 11	**Wichtig für die Werkstatt!**	
Sachgebiet:	OBSERVATION-SYSTEM	SI	
		Nummer:	4822 830 11013
Memo:	DE10BUD	Datum:	22.06.1998

Service Information

Betrifft: VM 6 System

Verteiler: Sh

Korrektur Service Manual

Observation System VSS 2360/00T und Slave Monitor VSS 4460/00T

Im Service Manual 4822 727 21404, Observation System VM6 ist auf Seite 25 (Elektrical Partlist) der Transistor Pos. 7130 mit zwei unterschiedlichen Transistortypen aufgelistet.

Der richtige Typ lautet: MTP3N60 mit der Codenummer 4822 130 10166.

Den falschen Transistor im Manual streichen.

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